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# BULBS FOR POT

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AND FALL PLANTING IN THE GARDEN

★ SEP 24 1947 ★

U. S. DEPARTMENT OF AGRICULTURE



A CATALOG OF THE BULBS OF THE AMARYLLIS, IRIS, ORCHID  
AND OTHER PLANT FAMILIES

Special Articles: How to Grow Amaryllis; How to Force Easter Lilies  
for Easter Bloom; How to Force Daffodils and Culture Directions for all  
Bulbs and Orchids Listed.

A PERSONAL LETTER To You.

**FALL 1947**

**CECIL HOUDYSHEL**

1412 THIRD ST.

LA VERNE, CALIFORNIA



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# A PERSONAL LETTER — TO YOU

Dear Floral Friends,

Greetings from La Verne, California. This catalog is arriving a little late and the excuse is a good one. I had an attack of flu in early spring and against my doctor's advice, I tried to stay on my feet and keep going. As a result, I had two months illness and a slow convalescence. I am still like one of my war-time employees who said he had two speeds, slow and stop.

Other factors causing delay follow. This catalog required more careful preparation than is usually required. We wished to revise and lower prices. We subscribe to the belief that every industry and every merchant should do that. In fact, we hold the theory that these rising prices are the worst impediment to American industry and full recovery from the effects of war.

We have had to abandon a lease on a few acres, thus reducing our growing acreage. As a result, we have quite a few surplus bulbs. I have fixed the prices on these so that the 100 rates are below the usual wholesale prices. In some cases they are only about one half. I refer you to quantity prices on Watsonias, Scillas, Brodiae uniflora, Ornithogalum arabicum, Brunsvigia rosea etc.

One of the very desirable bulbs included in these surplus bulbs specials is *Leucojum aestivum* or Spring Snow Flakes. They are hardy everywhere and usually flower before snow has gone. It belongs to the Amaryllis Family.

The prices on surplus bulbs will interest all those who wish to use quantities of 100 or more

bulbs of a kind for landscape use or for commercial purposes because they are mostly below wholesale. The single and dozen rates are also very low.

We have returned Easter Lilies to our list. They have not been listed before since the beginning of the war. Very careful instructions for forcing them and for bringing them into flower for Easter, or for a certain date, are given.

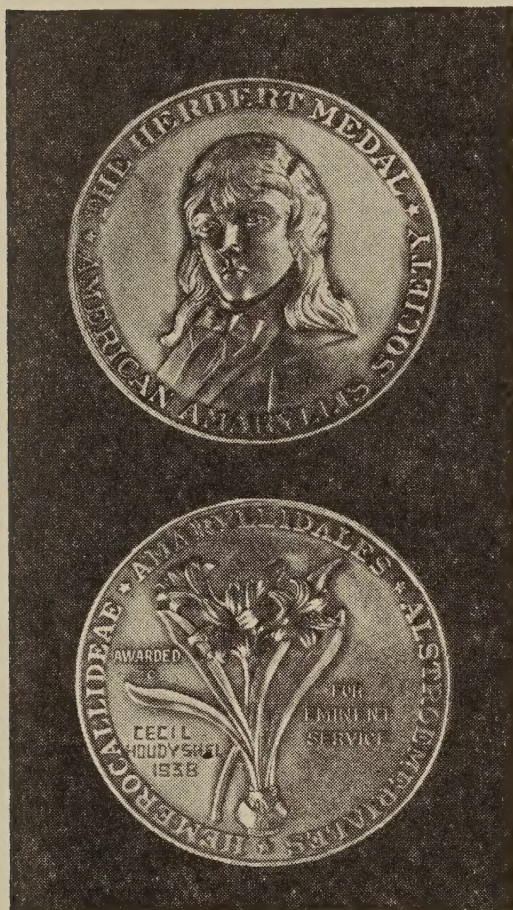
All these things made writing this catalog a larger task than usual. I hope that it is good enough to make a weeks delay in receiving the catalog excusable.

I want to call your attention to our longer list of orchids. At the present time, the orchid to buy for quickest results is *Laelia anceps*. Many of these are budded. It is more expensive to pack and to ship one with blooming scapes started, hence they will cost more but nearly all of our *L. anceps* costing \$5.50 or more should flower. Those with buds showing are of course more sure. Many even of the \$3.00 size are likely to flower next winter and sure to next year, with proper handling.

Please do not delay ordering orchids until cold weather arrives as we cannot guarantee safe arrival in winter. Express is the only safe method of transportation then and if ordered in winter it is better to ask us to ship by express at your expense.

If you have already tried to grow the American epiphytal orchids and have failed, do not conclude that you are unable to grow orchids. They are really easier to grow than tuberous begonias. Perhaps you started with unestablished, recently imported plants and lacked the information and the simple equipment necessary for success.

Let us make a simple comparison. The conditions of life necessary for a fish are





simple ones, but when given those simple conditions they grow, remain in good health and increase rapidly. Denied those simple requirements, a fish soon dies. No one expects a fish to live long out of water because it has no lungs. It can only take in oxygen by means of its gills, from the water. Possibly the orchid that you tried to grow was like a fish out of water because you did not quite conform the culture given it to its natural environment and conditions of growth.

There are many sources of information for the culture of orchids. Usually these sources are not easily available to amateurs. I wanted to correct this situation and therefore during the past summer I wrote a small booklet entitled, "How to Grow Orchids." This booklet contains more complete information about orchid culture than could be included in our catalogs. I believe that any gardener who is able to grow other plants can also grow orchids, with its help. If you have the desire and the will to succeed, you will do it.

The cost of preparing, printing and sending out makes it necessary to charge 25c for the booklet. If you want it by air mail send 5c extra for postage and state, "send by air mail."

If you have tried to grow unestablished, dried out imported orchids and did not get flowers, do not be discouraged. They do not always do very well for me either. But ours, established in wire baskets or paper pots are already growing. The principal difficulty has been overcome.

All the above may appear to be "strictly business" and not quite like the friendly letter you usually receive in the catalogs. But I believe we will all agree that any business to be successful must be considered as a service, as well as the means of making a living. Therefore if I call your attention to any thing pertaining to plants, I trust you will understand that it is as much friendly interest as "strictly business."

It has always been my intense desire to promote the growing of plants and particularly flowers. Now with the availability of orchids and the information about their culture I am equally enthusiastic about helping you to obtain them and to grow them.

**Provided**, that you want to grow them. I really do not want to promote them to any one who is not going to take proper care of the plants and thus succeed.

My booklet "How to Grow Orchids" is merely a beginning. I shall add descriptions and instructions for growing other orchids about next summer. At present I am growing more than 50 species and hybrids, including Cattleya hybrids.

We receive many friendly letters from our customers. The floods, the partial failure of the corn crop in some states have been mentioned.

The reduction in the corn crop below that estimated and hoped for is most regrettable. It is not especially serious that some of us who love corn bread, will have less of it.

The following story illustrates the importance and the significance of corn in our agricultural economy. It was told to me by our foreman Jim, who was born in Kentucky.

Kentucky is probably more noted for other products, like horses or tobacco, than it is for corn. Yet a Kentucky Colonel in giving advice to his son said: "Son, you can grow a crop of tobacco or any number of things that will bring you in ready money. But when the money is gone you have nothing. If you grow corn you have everything. You have bread, meat, milk and eggs. About all you need to buy is clothing, salt, sugar and coffee."

Corn is indeed important.

I am frequently misunderstood. I really do get some long letters of advice, and don't think I do not appreciate them because I do. I don't follow all of them, I admit since if I did I would be both going and coming at the same time.

As the result of two letters I wish to explain that a recent reference to our highly esteemed coal miners was wholly intended as humor.

Altho the friends of the miners may misunderstand I am sure the miners themselves will be able to laugh with me. How do I know this? I have been a coal miner



and we did not work a strip pit either but in a deep mine. This was one of the jobs I had when earning money to go to college. I believe miners to be intelligent, broad minded workmen. They can hand it out or take it with a grin.

Should I ever attain a degree of success in the bulb and orchid business and make a lot of money, sufficient even to gain admission to inner social circles, I am sure I would find myself rubbing elbows with other ex-miners. They have just as good a chance of attaining wealth or even social prominence as I have. Personally I hope they have a better chance. Look at Lewis. I'll bet he is in "Who's Who" already.

Wishing for you great garden success in the approaching season and the best of everything,

Sincerely,  
Cecil Houdyshel

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## TERMS AND INSTRUCTIONS FOR ORDERING

The prices in this catalog cancel all former quotations.

California Customers must add 2½ % **Sales Tax**.

Remit by check or M. O. If stamps are sent, send \$1.08 for \$1.00. We do not carry accounts.

**C. O. D.** We do not ship bulbs C. O. D.

**Postage prepaid** on orders of \$1.00 or over. Under \$1.00, add 10c extra.

**Insurance.** Send 3c extra on orders up to \$5.00. 10c for orders \$5.00 to \$25.00. We accept no responsibility if you do not insure.

**Special Handling** costs 15c. If you send 15c extra, and insurance, your parcel post shipment will receive the same treatment as first class mail. It will arrive more promptly and safely. All valuable shipments should be protected by Insurance and Special Handling, total 18c for \$5.00 and 23c up to \$25.00 values.

**Express** is safer for large and valuable shipments, especially in cold weather in north. It is more expensive than mail and we ship that way, only f. o. b. La Verne. We will add extra value to equal postage.

**Prices** given are usually for one bulb. A dozen costs 10 times the price of one. 6 are sold at doz. rate. Unless otherwise stated, 100 cost 7 times the cost of one or 7 times the cost of one doz. 50 are sold for the price of 4 doz., not at 100 rate.

**Wholesale.** Dealers are invited to ask for our wholesale quantity price list or to submit a list of bulbs and quantities wanted for a quotation. We are unable to give discounts to dealers on small quantity orders from this catalog.

**Foreign orders.** Our prices include prepaid delivery only as far as our 8th postal zone. We can usually prepay to Mexico or Canada. It is best to include some extra on export orders. If too much, we add extra bulbs. The 100 rate prices do not apply on export orders unless customer pays transportation.

**Canadian Customers.** Apply to Sec. of Destructive Insect and Pest Act, Advisory Board, Ottawa, Ont. (or ask your P. M.) for Permit and mailing label and send these with your order.

**Errors.** We make them but correct them, if notified at once.

**Partial Shipments.** If everything is not included in first shipment a slip so stating is enclosed. When final shipment is made, another slip so states. Check them with order and if short, notify us at once.

**Guarantee.** Our bulbs are true to name and healthy, but we do not guarantee results since we do not control the conditions under which they are grown. If, in your opinion, our bulbs are not up to our specifications, notify us at once. If you are not then satisfied with our explanation, they may be returned. No refund will be made if planted unless circumstances indicate bulbs were at fault.

**Culture** directions are in this catalog, hence none are sent with bulbs.

**Catalogs.** **Spring Catalog**, Jan. 15. **Fall Catalog**, Aug. 15. Names are dropped from



our mailing list if you do not buy for two years. If not interested, please ask P. M. to return this at our expense, thus saving paper and labor.

**Correspondence.** We enjoy your friendly letters. I answer them twice a year in our Introductory Letter. It is a fact that I work longer hours and for less pay than the coal miners and am still unable to answer all letters requiring it. Two assistants help but we never catch up. Some letters accuse me of not liking to write. I do, but I have over 35,000 pen pals. Read entire catalog before asking questions.

**Identifying Bulbs.** We usually can. Send flower, foliage and if possible, a bulb. Give all facts known. Enclose self-addressed postcard and attach your letter to outside of package. We do not attempt to identify horticultural varieties of Gladiolus, Iris, etc.

**Time of Delivery.** All bulbs are delivered within range of correct planting dates.

## GENERAL CULTURE DIRECTIONS

Rich sandy loam is the best soil. Only a few, like Bearded Iris, prefer heavy soil. A very few, like Gloriosas, must have sandy soil.

All soils require the addition of much humus. Compost all garbage, weeds, leaves, cut branches and manures. When rotted, add to soil and thoroly mix.

**Fertilizers.** We recommend only animal manures and compost. Fresh manure can be used on a few plants, that are growing vigorously, as a very light mulch, but after flowering. Do not fertilize a plant in dry soil, or use any fertilizer, unless thoroly rotted in a compost heap, in the soil before planting bulbs, seeds, or plants.

**After blooming,** many neglect their bulbs. As a result the bulbs do not flower the following year. For success one must continue to give good culture and encourage luxuriant growth until yellowing foliage indicates the bulb has completed its annual growth and is becoming dormant.

**Depth of planting and distance apart** often cause too much concern. Bulbs usually have sufficient adaptability to do well under widely varying conditions. If left in one place a few years, most bulbs adjust themselves to their preferred depth. Approximately, bulbs should be about 2 or 3 times their diameter apart unless their habit of growth is spreading—like Ranunculus. In such cases plant farther apart. Small bulbs, like Ranunculus, should be about 2" or 3" deep, depending on size. Bulbs as large as Daffodils may be 4" to 6" deep. Bulbs with a heavy erect stem need deep planting in order to remain erect. Plant deeper in light sandy soils than in heavy soils and in cold climates to protect from frost.

**Pests.** Snails and slugs are most serious garden pests. We have found the very best control is furnished by **Bug-geta Pellets**. They also kill cut worms and grasshoppers. Because so easy to apply, they are more economical than powders which require you to stoop in placing them. Buy the economical way, in 25 lb. bags. Price \$3.75 f. o. b. La Verne. **Ants** are a pest in the house and in the garden they distribute **aphis** and **mealy bug** and tend them like domestic animals. Best control is **Ant-B-Gon**. Set of 4 dispensers, filled, 60c, f. o. b. La Verne. Best to send by mail. Ask your P. M. the amount of postage required on 2 lbs. from La Verne. Ant-B-Gon liquid for refilling, 4 oz. 25c post paid. **Mealy bugs** are a serious pest to garden and house plants. They are everywhere and must be controlled. First destroy ants. Wash them off of house plants and use a spray of water from hose to dislodge from garden plants. You will still need to spray with **Garden Volc**. Use any type of sprayer and a small fly sprayer will do for house plants. Price, Garden Volc, 4 oz. for 30c post paid. Use Garden Volc also against Scale Insects. These are the remedies we use and have found best.

**Garden Success** requires aggressive effort on your part. One can always blame the bulbs for failure, but it does not advance one's knowledge of the art and science of gardening.

## ACID AND ALKALINE SOILS

Most plants thrive in mildly acid, neutral or mildly alkaline soils. But others do not have so wide a range of tolerance. Rhododendrons, Zantedeschias, Orchids and others require a more or less acid soil. Bearded Iris grow best in a neutral to alkaline soil. The



acid-alkali balance depends upon the concentration of hydrogen ions in a saturated solution. This is expressed in pH units. pH 7 is neutral. Below that the acidity increases; above it the alkalinity increases. For the mathematical, I will explain that the numeral is the negative logarithm denoting the concentration of hydrogen ions in gram atoms per liter.

**Soiltex Outfit.** This small kit will enable you to determine the pH of your soil. No chemical knowledge is needed. Full directions for its use are included. Price \$1.00.

If your soil is too alkaline for the plants you wish to grow, the remedy is to add humus. Imported peat is the most acid. Some American peat is acid but some of it is actually alkaline due to minerals contained. Oak leaf mould is more acid than other leaf moulds.

**Canadian Peat.** We can furnish this to near-by customers for \$5.00 per bale, or 10 lbs. for \$1.00 f. o. b. La Verne. Buy locally if you can. If ordered, be sure to ask your Express Agent the rate on 100 lbs. It may be nearly twice the cost of the peat, for a long distance.

**Rootone** induces quick rooting of bulbs, cuttings and the sprouting of seed. As the result of its action bulbs make a more vigorous root system and grow larger and produce greater increase. Slightly moisten the base of the bulb and cover with a thin film of Rootone. Dip end of cuttings into the powder. Tumble seeds in a jar or seed envelope with the powder. Roll the coated seed out and save remaining powder. **Price**, one-half ounce, a good supply, 50c postpaid. 1-lb. can, for very extensive planting, \$5.00.

**Vitamin B-1** is a useful stimulant for plants, we believe. We have used it in transplanting bulbs and other plants with apparent usefulness. Price per bottle of 100 tablets, 75c.

**Directions for use**, applying only to our own tablets. In transplanting bulbs or any plants, loose roots, dissolve 5 tablets in 1 gal. of water. Soak roots in this 15 to 30 min. Pour solution around plant when set. To stimulate growing plants, for the first application, dissolve one tab. in 2 gal. water. For succeeding waterings, use 1 tab. to 4 gal. water once a week. **Warning.** Do not soak dormant bulbs in Vit. B-1. It rots them.

**Sources of more information.** Subscribe for Flower Grower, Albany, New York. \$2.50 per year. \$4.00 for 2 yrs. Send directly to them. Also join local garden clubs.

I belong to and recommend The American Plant Life Society. Please note under Amaryllidaceae; also The American Horticultural Society. The latter society publishes The National Horticultural Magazine, quarterly, which members receive. The magazine is printed on heavy book paper, beautifully illustrated and covers entire field of horticulture, not merely bulbs or house plants. Send \$3.00 for annual membership to The American Horticultural Society, Inc., 821 Washington Loan & Trust Building, Washington 4, D. C.

## GARDEN REFERENCE BOOKS

**Bailey's Cyclopedia of Horticulture.** This 3-vol. set of over 3,600 pages describes almost every cultivated plant and has a wealth of culture information. Price \$30.00 postpaid. N. B. The publishers have sold out the last editions of this and Hortus Second. New editions have been in preparation for several months but due to paper shortage it is likely that orders may be delayed several months. Both works are worth waiting for. Only thing you can do is to put in your order and your check and wait in line. **Flash.** The publishers have just informed me that they expect the new edition of the Cyclopedia to be ready this fall. I have customers who have waited a year or more. If you have sent us \$25.00, you must now meet the new price and send another \$5.00 or request a cancellation of the order. See explanation under Orchids.

**Hortus Second.** (Bailey) A Concise Dictionary of Gardening. This 778 page volume lists and describes nearly every plant offered in catalogs, and some that are not in the Cyclopedia of Hort. It contains only a few culture hints. Both works should be in every garden library. Price \$5.00.

**A Southern Garden**, by Elizabeth Lawrence, a handbook for the Middle South. A most useful handbook for all gardeners, north or south. Bulbs and all garden plants. 251 pages. Price \$3.00.



**Enjoy Your House Plants.** Excellent handbook of window gardening by Dorothy Jenkins and Helen Van Pelt Wilson. 238 pages. Price \$2.50.

**Begonias And How To Grow Them.** Bessie Raymond Buxton. Invaluable in growing all Begonias, including the Tuberous. 161 pp. \$2.25.

**Greenhouse Gardening For Everyone.** By Ernest Chabet. I can recommend this book to you if you have a greenhouse. It will save you from having to learn the hard way, thru experiments and losses. Important factors are here noted including correct temperatures for forcing a great variety of plants including bulbs and orchids. 266 pp. \$3.00.

**American Orchid Culture.** Edward A. White. This is a complete handbook of American Orchid Culture for both commercial and amateur growers. Most interesting accounts of Orchid hunting trips, in many lands, are related. 14 beautiful color plates and many other illustrations. A beautiful, interesting, useful book. 276 pp. \$6.00.

**How To Grow Orchids.** By Cecil Houdyshel. A 12-page pamphlet, no illustrations, carefully explains the culture requirements of easily grown orchids. Brief reference to the history of orchid culture and descriptions of desirable species. Price 25c.

The books are cloth bound and printed on book paper. Postage prepaid. Add 3c for insurance to \$5.00. Sales Tax  $2\frac{1}{2}\%$  for California customers.

## BULBS AND ORCHIDS AS POT PLANTS

Bulbs and orchids are most desirable as pot plants. They may be grown in the living room, kitchen, a light basement room or in a small greenhouse quite as well as in a large commercial greenhouse.

The following bulbs are recommended for forcing in pots: Agapanthus, Amaryllis species and hybrids, Amarcrinum, Anemones, Arum, Babiana, Baby Gladiolus, Brodiaea uniflora, Callas, both white and colored, Clivia, Daffodils and Narcissus, Elisena, Freesia, Haemanthus, Hyacinths, Hymenocallis, Ismene, Lachenalia, Lilium, Marica, Nerine, Ornithogalum, Oxalis, Ranunculus, Scilla peruviana, Sparaxis, Sprekalia, Tritonia, Tulbaghia, Veltheimia, Zantedeschia, (Calla Lilies).

The following bloom very early and must be ordered as soon as you receive this catalog if you wish to see a flower this fall: Amaryllis advena, Haemanthus coccineus, Brunsvigia rosea (or Amaryllis belladonna), Sternbergia lutea. Haemanthus coccineus does well in a pot. The Amaryllis advena, Brunsvigia rosea and Sternbergia lutea are not recommended for permanent pot bulbs as they usually flower the first year but not thereafter.

Nearly all bulbs may be grown in pots. Crinums do well but require a large space. Gladiolus and Watsonias are tall for the purpose, but they are forced in commercial greenhouses.

**Plants for pots.** Orchids are supremely desirable and any one can grow them. **Billbergias** are unusual, beautiful and easy in pots. You can grow **Violets** in a cool room.

## POTTING DIRECTIONS

Bulbs bloom better in pots that are not too large. A  $2\frac{1}{2}$ " Amaryllis will do well in 6" or 7" pot. Many use a 5" size but I prefer to give as large a pot as will be favorable to flowering. Give larger or smaller bulbs of any sort, pots in proportion to this size, that is 2 or 3 times the diam. of bulb. Small bulbs may be planted 2" or 3" apart in any size pot.

Most large bulbs, like Amaryllis, may have  $\frac{2}{3}$  of bulb above surface but small bulbs, especially Anemones and Ranunculus, should be covered about 1".

Use clean pots. It is advisable to boil and scrub the surface. Even new clay pots should be boiled, or soaked for two days to remove chemicals. Cover the hole at bottom with a piece of broken pot, concave side down. Above this place small pieces of broken pot and gravel. This helps to drain away excess water.

The drainage must be perfect and it is essential that the soil above this drainage material be of a friable texture that permits water to pass thru freely. I have seen bulbs potted in a heavy clay soil that appeared to be doing well, but such soil endangers them and the bulbs are unlikely to prosper for very long.

The best soil is a rich sandy loam with the addition of plenty of humus. For humus



one can combine rotted leaf mould and old rotted dairy manure well broken up and rubbed thru a screen of smallest gauge. For most plants the proportion can be  $\frac{2}{3}$  sandy loam,  $\frac{1}{3}$  humus.

**Fertilizers.** Many advise the addition of fertilizer to potting soils. We never use any except the rotted dairy manure and leaf mould and sometimes a tablespoon of bone meal. If new roots come into contact with much fertilizer they are burned. Commercial fertilizer is especially a hazard. When the plants have become well rooted and have made a good top growth, most of them will be helped by using liquid manure. Cover manure with water and allow to settle. Pour off water and dilute further until it is a very light amber, the color of weak tea. This can be used about every two weeks but don't use it on dry soil and thirsty plants.

**Sun exposure.** Note requirements of plants under listings. For full sun, use a south window. For half sun use an east or west window and add a thin curtain if it proves too much. For Clivias and others requiring full shade or only a little filtered sunlight, use a north window or place on a stand at a distance from window, but always give plenty of light and good ventilation, especially in gas heated rooms.

**Temperature.** Most bulbs root better in a cool room of 45°. There must not be too much water given while roots are starting as it may cause bulbs to rot even when cool. When a bud or foliage shows that growth has started, gradually bring the temperature to about 70° and water a little more. The best temperatures for plants vary. Some like more warmth than others. This is indicated in the special culture directions for these plants.

Probably more failures in forcing bulbs result from starting the forcing process (bringing the bulbs into a warm room with more light) before they are well rooted, than from any other cause. Experienced gardeners know how to reverse a pot, tap lightly on its edge and lift it up and off of the lump of soil and without breaking this lump. If the new roots have penetrated to the sides of the pot they may be brought to a warmer place with more light. It is much better to move them by easy stage not by a sudden change from 45° to 70°. Let the change of temperature be not over 10° at a shift. Imitate nature.

After flowering, very few plants may be dried off. Early blooming plants, especially, must be kept growing for a long time, some of them, like Amaryllis, for all summer. Amaryllis and many others may be plunged or shifted to the outside garden when weather is sufficiently warm, to complete their growth. Give them good culture, enough water and liquid fertilizer or manure mulch to keep them growing. Only when leaves begin to yellow in spite of good culture, are they ready to become dormant. Then gradually dry them off and repot. Bring in before heavy frosts.

## CATALOG ARRANGEMENT

is by Plant Families. We also try to group plants according to their relationships, rather than alphabetically. You need to read the entire catalog.

In the following lists the **genus** (plu. genera) is mentioned first. After it, the **species** (plu. also species) or horticultural variety is named. The initial of the genus is used for the second and succeeding species. Thus A. will stand for Amaryllis or Agapanthus depending on the genus last named in full.

## THE AMARYLLIS FAMILY—Amaryllidaceae

This Family includes the following bulbs, Agapanthus thru The Alliae.

The American Plant Life Society was founded in 1934 as The American Amaryllis Society. The interests of the Society have recently been enlarged to include other bulbs and plants and the name changed, but with no lessening in interest in Amaryllids.

The annual book, "Herbertia," is devoted to Amaryllids. It consists of about 250 pages, beautifully illustrated, on fine book paper, and is edited by Dr. Hamilton P. Traub of the U. S. Dept. of Agriculture, the greatest living authority on the Amaryllidaceae. Each member receives a copy.

The members also receive the occasional publication, "Plant Life," on other bulbs and plants.



Those who grow *Amaryllis* as an interesting and intellectual hobby and who love their vivid beauty, are invited to become members of the society. The annual dues are \$2.50 per year, which you may send me.

Due to paper shortage, *Herbertia* vol's 13 and 14, for 1946 and 1947 have not yet been printed altho both are practically ready. Probably vol. 13 and possibly vol. 14 will be printed before the end of 1947. *Herbertia* is worth waiting for and if wanted, I suggest you send me \$2.50 ea. for the vol's wanted. Vol. 12 (1945) is available for the price of \$3.50. Vol. 11, 1944, price \$4.50. Complete sets of vol's 1 to 10 inclusive, may be had by members only for \$35.00. This purchase is recommended only to the advanced collector and specialist. *Herbertia* is both a scientific and a popular work. In it are published the results of basic research which lead to further progress as well as many popular articles which will bring new information to all gardeners.

**Amaryllid nomenclature.** Carl Linnaeus, father of modern botany, made the first, rather complete scientific arrangement of plants according to relationships in the 18th century. His information about many plants was wholly inadequate to achieve perfection. Comparatively few plants were even known. Even in my later first French edition, 1798, nearly all American epiphytic orchids were placed in one genus, *Epidendrums*, and under the genus *Amaryllis* he included certain *Crinum*s, *Zephyranthes*, *Sprekelias*, *Brunsvigias*, *Nerines*, etc. Botany is a progressive science and later explorations and discoveries have made possible many improvements in plant classifications and have required changes in nomenclature. Horticulturists are often loath to accept the new classifications and names. But we must do so even if inconvenient at first. It is not logical to continue an error.

In order that our customers may not order a bulb they already have under an obsolete name, we give both old and new names.

**Agapanthus** means Love Flower. Blooms in spring and summer. Large attractive umbels, blue or white on tall erect stiff stems. Easy to grow in south in full sun or slight shade, any good soil, and in the north in tubs or buckets, wintered in basement. Delivery any time except for the deciduous variety, *mooreanus* minor, which is delivered in winter to early spring.

**A. longispathus.** New species. Flowers resemble *Orientalis* but blooms more profusely and is more graceful. 50c.

**A. orientalis** (*umbellatus*). Blue Lily of the Nile. Our variety is an especially fine one with deep blue flowers on a tall stem. Many flowers are produced in spring and thru summer. 50c ea. Extra large roots, 75c.

**A. orientalis**, "Sky Blue." Lovely light blue. 75c ea.

**A. orientalis**, var. *albidus*. Has pure white flowers. \$1.00 ea.

**Alstroemeria** (Pronounced -stre-, not -stro-). Very showy flowers, many in an umbel on a long, slender, stiff stem. The pastel tones are rich and varied, the form unique. Long lasting and popular as commercial cut flowers.

**Culture.** Good under drainage is essential, therefore plant if possible in sandy soil to which is added much leaf mould or other humus. On heavy soil add 6" sand, equal or greater depth of leaf mould and spade to depth 6" below original soil surface. Plant before Nov. 1 if possible. Half shade or a little less is best. Tender semitropical winter growers, but can be grown in pots in north. Dry them off but do not dig when tops ripen. Begin watering in fall when growth starts.

**Alstroemeria chilensis.** Most attractive pastel tones of white, pink, red, yellow and orange. 20c ea. \$2.00 doz.

**A. ligtu angustifolia.** Flowers similar to *chilensis* but larger and on a taller, stiffer stem, often 3 ft. 30c ea. \$2.75 doz.

**A. ligtu Stinsoni.** Like *angustifolia* but deeper colors. 30c. \$2.75 doz.

These two varieties of *A. ligtu* are the most desirable of all and the best for production of commercial cut flowers. One can increase the stock by planting the freely produced seed. For pure seed, do not plant two varieties near together or the insects will cross pollinate them.

**A. pelegrina.** "Lily of The Incas." Dark rose. Inner petals spotted reddish purple. 25c ea. \$2.50 per doz.

**A. Assorted colors and varieties.** 20c ea. \$1.50 doz.



**Amaryllis.** Botanists have discarded the old name, *Hippeastrum*, for this genus. They are the easiest, the most showy and popular of all bulbs for growing in pots. Equally desirable for southern gardens where they are hardy along the east coast to N. Carolina and on the west to Vancouver. In the middle section they may be grown as far north as Ark. and Okla., but note special directions for colder sections.

**How to Grow Amaryllis.** In the garden, in the deep south where temperatures go only a few degrees under freezing, Amaryllis bulbs need to be covered only about an inch or two. Farther north they should be planted about an inch below frost penetration, in protected places and mulched with straw, leaves and/or brush. In Okla., a customer reports a depth of 4" with mulch is safe. A customer in N. Iowa reported an *A. rutila* hybrid, the hardier type, planted a foot deep, survived the winter but that is too deep to expect flowers and long life for the bulb. Let 6" and in sandy soil be the limit, preferably less. Why not mound them over with soil and mulch to be removed in spring?

**In Pots.** A bulb 3" or less in diam. needs a 7" pot, and larger bulbs need larger pots. It is better to pot in Nov. or Dec. Better blooms result. But one can pot them as late as March and it is better late than never. The early potted bulbs will start more easily and give better flowers, but in either case the flowers will be better and will show more fully their full quality the second year.

The best potting soil is a rich sandy loam. If not sandy use a friable loam and add sand. To this add an equal quantity of well screened and well rotted dairy manure and leaf mould. Use no fresh or partially decayed manure and no peat or sphagnum. One tablespoonful of bone meal to each pot is recommended. Mix all ingredients thoroly.

In potting the bulbs, carefully preserve any living roots, even remnants. Clean but do not scrape the base of the bulb and dust the moistened surface of base and the roots with Rootone. If there are no roots, coat base of bulb with Rootone, which will hasten their formation.

Pot the bulb two-thirds above surface and water well. After this keep the soil only slightly moist until growth starts, then gradually increase. When first potted set them in a cool, light room but not in sunlight. The best temperature now is not over 50°. The bulbs must have sufficient time to form a good root system under these conditions. If placed in a warm room and exposed to the sun, top growth will be made before roots, and the results are poor flowers or none.

When you are sure that roots have formed, but not before, water the plants as directed with Vit. B-1. But be sure to leave the bulbs a sufficient length of time in a cool room. They need this period of dormancy and sufficient time to make a good root system. Many fail because they try to force the bulbs before they have rested and have made good roots. If you get a poor flower it may be because the bulb had no roots and had only the sustenance stored in the bulb from which to make flowers. Lack of a good root system to nourish the flower will affect the quality of the flower in every way,—size, substance and even color. So, don't remove pots from the cool room too soon. Wait until they demand it by top growth. Then bring the pots by easy stage to a temperature of 50°, 60°, then about 70°.

After flowering the bulb has shrunk and a long period of growth is necessary. If good growth is made at this important stage, the bulb will become much larger and offsets may be made. Keep them growing as long as possible. When the weather is warm outside the pots may be plunged in the garden. If rim of pot is sufficiently below soil surface the roots may emerge and add range to the root system. Or better still, shift the bulb and the unbroken lump of soil to the garden. Water liberally during growth and when in good growth use manure water or mulch with manure. This is good advice for pot grown bulbs as well, but don't give heavy feeding to a sick or starved bulb. Plants, animals and people must have enough vigor to digest and assimilate food. If they do not have this, it becomes a poison.

Keep the bulbs growing as long as they will grow. When the foliage begins to yellow, about Nov. usually, one may reduce water, and give them a rest. Store pots in a cool room as for starting.

Usually the summer's growth will have increased the size of the bulbs sufficiently to require shifting to a larger pot. The new pot should be large enough to accommodate all



the roots. Do not remove or injure any of the roots and contrive to distribute them thruout the soil.

When repotted, water at once to settle soil around the roots. Thereafter they should receive very little water, only enough to prevent drying out and loss of roots. They should remain in a cool room. They need a period of rest, altho leaves do not always die back. When growth begins, start again the natural spring time change to higher temperatures, repeating the procedure followed when you planted the dry bulbs. But your bulbs are now much better bulbs. They are not dried out and they have or should have many roots. If kept too wet or too warm while dormant, the roots may rot. But if you handle the bulbs carefully you may expect more, larger and better flowers the second year. With experience you may become skillful in having bulbs bloom even by Jan. 1 and others up to May 1.

**How to judge the quality of the flowers of Amaryllis hybrids.** The perfect flower of the Leopoldi type should be 5" to 8" across. The petals should be well rounded and broad, overlapping each other, no twisting of petals, and they should form a wide open, flat flower. The texture should be smooth and firm, of good substance. The tube should be short. There should be little or no green in throat but as the species Leopoldi contains considerable green there are few hybrids that do not contain some green. Very few are perfect in any respect.

There should be no dull colors, like brick red. But colors should be bright and of every imaginable tone within the range of this genus.

Self colors are desirable to go along with stripes and other variations. But it is difficult to get other than red selfs and these are unusual. A few of our Select Strains, American Hybrids are pure red, scarlet, rose or pink selfs. But they are few and not separately labeled. Don't order self colors or any colors except as listed.

**Please note.** There is no quantity discounts on Amaryllis except as noted with listing.

**Amaryllis advena. Oxblood Lily.** 5 to 8 ox-blood red flowers in an umbel, on a 10" slender scape, preceding foliage. Fall bloomer. **Culture.** Not suitable for pot culture, but so nearly hardy that in mild sections of north it will succeed. In Michigan, in the section where peaches are grown, this Amaryllis has been grown commercially. It may be planted 6" deep and mulched, in a protected situation. Full sun exposure, heavy or medium loam soil is good but does well in lighter soils also. Price 50c ea. \$4.50 doz. Order at once, before late Sept.

**A. psitticina.** Species from S. Brazil. Large bulb and plant. The large flowers have green tinted throat with carmine lines radiating to the carmine edge of petals. The effect is of a very pretty red Amaryllis. Here this species flowers in winter and is a free bloomer. Price \$6.00 ea.

**A. Hybrids, Select American Strains.** These are the best American hybrids, of Leopoldi ancestry. Many Amaryllis sold are chance seedlings grown from seed collected in the field. These are likely to produce the sturdiest bulbs. From a vegetative standpoint they are the best. But for the most beautiful flowers, breeders select the best parents having the most beautiful flowers, grow them in a greenhouse and cross them by hand. Our Select Strains are produced thus.

**Color Classes.** These are named from the parents. When they first bloom, off colors are removed or "rogued" out. They are again rogued the second year. Nevertheless, the color classes are only approximately correct. Many off colors are missed when rogueing. There is also a wide difference in opinion as to color. One calls a flower pink. Others may call it rose. Therefore, we do not guarantee the color but we do exchange them if the customer is not satisfied. Seldom, however, is a customer willing to part with a bulb of this strain, even tho it be an off color. The following color classes are as selected and named by the originator. When you get a wrong color and do not wish to keep it, notify us at once and await instructions.

**Select American Strains, Assorted Colors.** 2½" diam., up. 90c ea. 3 for \$2.50. \$9.75 doz.

**Select Am. Strains, White Background.** White, with light to medium markings of color. 2½", up, \$1.00 ea. 3 for \$2.85. 3" diam. \$2.50 ea.

**Select Am. Strains, Near White.** These are much nearer to pure white than White



**Backgrounds.** Large bulbs, nearly 3" diam. or over, \$5.00 ea.

**Select Am. Strains, Red Shades.** 2½", \$1.00 ea. 3 for \$2.85. 3", \$2.50 ea.

**Select Am. Strains, Scarlet,** 2½", \$1.00 ea. 3 for \$2.85. 3", \$2.50 ea.

**Select Am. Strains, Rose.** 3", \$3.00 ea. 3½" up, \$4.00 ea.

**Select Am. Strains, Large sizes,** assorted colors. These should all give two flower scapes and most of them give three. 2¾"-3" diam., \$1.75; 3"-3¼", \$2.50; 3¼"-up, \$3.00.

**A. American Hybrids, Assorted Colors.** Good Amaryllis from various sources. Not dime store quality. Blooming sizes, 50c. Large, nearly 3" or over, 75c ea.

**A. Ambigua Hybrids.** These are A. ambigua crossed and recrossed with White Backgrounds. They are not especially an improvement except that they are rather more sturdy, tall and some are fragrant. Most of these are White with usual markings. \$1.00 ea.

**A. Rutila Hybrids.** An extremely vigorous, rapid growing and multiplying strain. Equally prolific with flowers. Similar in color, orange scarlet with white throat and green keel. An ideal strain for outside planting and landscape effects. Their bright, vivid color "hits you in the eye." Altho not an exhibition type, many will like them in pots. Their vigor also recommends them for planting on the border line for their hardiness as

in Okla., Ark., even So. Kan., etc., where winter temperatures do not go much below zero. A customer planted one a foot deep in N. Iowa last fall and it came up this spring. But that is too deep, the bulb could not long survive. Don't plant over 4" or 5" to top of bulbs in a protected place and before ground freezes more than a crust mound over with earth and mulch with brush and leaves. Price, top size, nearly 3" and up, 75c ea. \$7.50 per doz. \$50.00 per 100, prepaid.

#### **Diener's Posthumous Hybrids.**

Grown from small bulbs of selected seed by Diener in the last year of his life, these should be his best. They are Equestre type, with longer and more narrow petals than the Leopoldi type. Often 5 to 8 flowers in an umbel, but to get large flowers that approach the size claimed by the originator one must disbud, leaving not over two on a scape. This strain blooms from smaller sizes and as they multiply rapidly, do not often become extra large. \$2.00.

#### **Amaryllis Sibyl Houdyshel,**

**Johnsonii** and others are withdrawn to increase stock.



**A. SELECT STRAINS**

**Amaryllis Seed.** We are unable to produce enough seed for our own planting. It is far better anyway for you to grow your own seed as that which you buy is often too old. Amaryllis seed should be planted shortly after ripening and drying. One year old seed is unlikely to grow in a good percentage.

**Plant Breeding** is an interesting science and art. Undertaken as a hobby, it has often resulted in fame. It will involve and develop great skill, ideals of beauty, good taste and intelligence. I suggest you start with our Select Strains. Get several bulbs and use the pollen only from those you like the best. Cross pollination is easily accomplished by placing the powdery pollen borne by the six stamens on the stigma in the center. The stigma when ready for pollen will usually be opened into three parts. When the seed pod



is ripe it bursts open and may be removed and dried. Plant the seed (soon) in a fine sandy loam containing plenty of humus. Do not use peat. Cover seed about  $\frac{1}{2}$ ". Seedlings may be grown in pots in house or greenhouse where they will continue to grow all year without a dormant interval until they flower. Usually this requires 2 to 3 years. In the warm south they can be grown outside under the half shade of lath. But frost usually destroys foliage in winter and cool nights interrupt growth, slowing development.

**Brunsvigia rosea.** Synonyms, *Amaryllis belladonna*, *Callicore rosea*. This bulb is familiar in Calif. and many parts of the south as *Amaryllis belladonna*, Naked Lady Lily, etc.

These begin to flower often in late July. The variety **Major** is in full flower in Aug. **Minor** follows soon after. The umbels are many flowered and the flowers are of the most exquisite pink and most entrancing fragrance. They are not suitable for pot growing as in pots they flower only the first year. But that flower is well worth the cost of the bulb.

It is hardy where winter temperatures go as low as 10° or 12° above zero. Probably will survive 10° lower than this. That limits its culture to the south, and along the coasts to N. Car. and the state of Washington. In the deep south, cover top of bulb only 1" or 2". On the border line of their hardiness they may be covered 4" or even more and mulched. Full sun or slight shade. They prefer to be rather dry when dormant in June and July.

These bulbs, especially the var. "major," should be ordered from the spring catalog, for delivery in July. Since "major" ordered now may or may not flower we will suggest that you plant assorted sizes that will become established and flower in succeeding years, tho a few may still flower.

**Brunsvigia rosea major.** Fragrant, pure pink flowers. L. 50c. M. 35c. Assorted sizes, mostly small, per doz., \$2.00, postpaid. Per 100, \$7.50 f. o. b. Larger sizes, \$12.00 per 100, f. o. b.

**B. rosea minor.** Pink, with light throat. Flowers in Sept.-Oct. Order before Oct. 1, if you expect flowers this year. 50c.

**B. rosea, var. "Ethel."** This, our seedling, is probably not different from some already named variety. This name will be abandoned when we find the correct one. Dark coral rose with white throat. Late blooming. One of most beautiful. \$2.00.

**Clivias.** Altho easy to grow and to flower by the amateur, they will always be classed with the aristocrats of flowering bulbs, because the flowers easily place them there. They increase so slowly by division that the chief method must be thru the freely produced seeds. But Clivias require at least five years and usually seven, to flower from seeds. This time involves expense. They can never become very cheap.

Clivias have evergreen, strap-like foliage somewhat resembling that of *Amaryllis*.

The flowers are produced in umbels of 10 to 25, in rich and exquisite tones of orange, in March and April. When not in flower the deep rich green foliage and later the red fruits are most ornamental.



CLIVIA, RECENTLY RECEIVED,  
BUDDED PLANT



**Culture.** They are usually grown in pots, even in the south, as more perfect foliage is thus possible, and when in flower one wants them in the house. We grow them in a lath house, lath spaced  $\frac{1}{2}$ " apart and in garden under Avocado (evergreen) trees. They must have shade with only a few flecks of sunshine, but plenty of light and air.

Clivias must never be dried off or allowed to lose their foliage. Keep them well watered after flowering, all summer and fall. Liquid fertilizer occasionally helps. When growth ceases in late fall rest them by giving them less water. But keep moist enough to prevent wilting of foliage. At this time they should have a cool room with temperatures from above 32° to not much over 50°. Pots should be 8" for a small plant up to 12" for larger. As they grow and increase, do not divide but shift to larger pots. Drainage must be perfect. Potting soil is described under "General Culture Directions." pH 7 is about right. One cannot guarantee a Clivia to flower the first year after moving tho they usually do.

The foliage of our Clivias, grown outside in the ground, will not be as perfect as that of pot grown plants. But when potted, they replace the old foliage in a few months and become specimen plants.

**Clivia miniata.** Wide open flowers of soft yellow orange. Hardest, \$3.00 ea.

**C. miniata hybrids.** Similar to the species "miniata" in foliage, hardiness, wide open flowers, etc., but there is some variation in color and form of flower. Most of them are in light orange tones. A few are dark and a few have a white throat. Do not express your color preference for any Clivia hybrids as we cannot tell the color from the plant. Blooming size, \$4.00 ea.

**C. nobilis hybrids.** These have darker orange flowers. The leaves are broader and more blunt and rounded at apex. \$7.50 ea.

## Narcissus and Daffodils

Both belong to the genus Narcissus of the Amaryllidaceae.

**Culture.** All Daffodils except the Polyanthus Narcissus are hardy both in the mild climate of the south as well as in the colder northern states. In the north especially it is best to plant the bulbs rather deep where the frost does not reach. Six inches is about right. Smaller bulbs may go more shallow and be mulched. In California too and all the south there is an advantage in deep planting. Plant September to November.

Sandy loam is the best soil, but any good rich garden soil will do. Use no fresh manure. The addition of lime to the soil is good, especially if leaf mould is used in sandy soils.

**In pots.** Daffodils force easily. Pot the bulbs early for earlier flowers, Sept. to Oct. The soil should be  $\frac{2}{3}$  sandy loam,  $\frac{1}{3}$  leaf mould and perfectly decayed dairy manure (use both or either one). Water the pots well. To start Daffodils, plunge the pots in a cold frame or pit outside in the shade, after the first watering, and cover pots with 6" of sand, surrounding the sides well. Thus they will be cool and roots will develop. The sand will prevent evaporation.

As soon as they are well rooted (10 or 12 weeks will be required), they can be brought inside. Examine the pots first in about 6 weeks. The roots should penetrate the soil to the sides of the pot. By reversing and tapping edge of pot one can with care lift a pot up to see if roots have reached the proper stage. There is no use to try to force the bulbs before abundant root development is reached. Only failure results.

The room temperature for forcing can be about 55° at night. Not much warmer during day. Set pots in a sunny window. Shift Daffodils to the garden when thru blooming as they cannot be forced two years in succession.

**Trumpet Daffodils** are hardy north and south but as they do not succeed in the tropics, do not plant in S. Fla. The following list of superb varieties are offered in large round bulbs at prices lower than last year, altho we underpriced most of them then. Plant one or more of each and really learn about daffodils. If not stated, the price per doz., is 10 times the price per bulb. In the description, E., means early; M., mid season, and L., late blooming.

When you compare prices, you must also compare sizes. The following bulbs are large, No. 1, round bulbs, the best forcing size. They give two or more flowers per bulb.



Smaller bulbs are offered for lower prices. For example, our cheaper King Alfred bulbs are #2 round.

**Aerolite.** Pure golden daffodil. Very large but beautifully proportioned and graceful. Medium early. 25c ea. \$2.25 per doz.

**Alaska.** Giant flower of deepest gold. Trumpet deeply frilled and edges recurved. Forces easy in pots. Mid season bloomer. 30c. Per doz., \$2.75.

**Alasnam.** Wide, densely frilled trumpet of pure deep yellow, a shade deeper than perianth. Much earlier and better than King Alfred. 20c ea. \$2.00 per doz.

**Beersheba.** Pure white, gigantic, magnificent flower, 5" wide. Perfect form and proportions. Immaculate and beautiful. 60c ea. \$5.50 doz.

**Ben Hur.** Glorious "loud speaker," deeply frilled trumpet of pure Roman gold, 2½" wide. Immense flower, beautifully proportioned. M. 30c.

**Dawson City.** Golden yellow. Broad flat flower of smooth substance, with flanged trumpet. Fine garden and exhibition variety. L. 25c.

**Fortune.** A giant Incomparabilis of perfect form, smooth texture, very large open and beautifully frilled trumpet of soft orange and creamy yellow petals. E. 50c.

**Golden Harvest.** Deep golden yellow. Petals well formed and overlapping. Trumpet well shaped and proportioned, rolled back at brim. One of the largest in existence. M. 25c.

**Hector Treub.** Deep golden yellow. Improved King Alfred. Easy, early forcer in pots. 20c ea. \$2.00 doz.

**Hendrik Ibsen.** Pure deep gold. Very graceful and very free flowering. Extra early. 15c. \$1.60 per doz.

**King Alfred.** Favorite of florists and gardeners. Deep golden yellow, exquisite and graceful. Good blooming size, rounds, 15c ea., \$1.40 doz. Per 100, \$7.75, by express, f. o. b. No. 1 round, 25c ea., \$2.50 doz. Per 100, \$15.00, express, f. o. b.

**Mrs. R. O. Backhouse.** The best of the famous Pink Daffodils in a low price range. Much better and more pink than Lovenest. The perianth is white and the long, deeply frilled trumpet is a rich apricot pink changing to shell pink at the edge. 75c.

**Winter Gold.** Very early, flowering in Feb., or earlier here. You must plant early for the earliest flowers. Bright yellow petals. Long, straight and nicely frilled trumpet. A very showy garden daffodil. 25c ea. \$2.40 doz.

**Trumpet Daffodil Collection.** One bulb of each of the above sorts, separately labelled, 13 varieties listed at \$4.15, for \$3.75.

**Jonquilla simplex.** This is the little fragrant jonquil so well loved in old gardens. 10c ea. 85c doz. Per 100, \$6.50. The standard price of these is much higher.

**Habranthus.** Formerly considered as a subgenus of Hippeastrum. When this genus was reorganized, most of the species were placed in Amaryllis and this subgenus became the genus Habranthus. Usually they have a one flowered scape. The culture is about the same as for Amaryllis advena as they are usually fall bloomers and winter growers.

**Habranthus brachyandrus.** The long tubular flower is very striking in color, lavender pink with a deep purple throat and is quite large. They begin to flower in late summer and continue into the fall. Hence should be ordered early. 75c.

**H. robustus.** Baker says the flower is rose red. It appears lavender pink to me. 25c ea. \$2.00 per doz.

**Haemanthus.** This south African genus of the Amaryllis family is rare in cultivation, therefore unusual. They are hardy only in almost frost free climates like So. Calif. and Florida, but are rare pot plants in the north. The soil must be well drained and should be composed of a mixture of loam, leaf mould and peat, with plenty of sand. The entire mixture should feel gritty. When in vigorous growth, the plants can use weak manure water or light, successive mulchings of manure. In our spring catalogs we list H. Katherinae, which is very rare and unusual and most gorgeous in beauty.

**Haemanthus albiflos.** Two or more rather stiff erect evergreen leaves. The small white flowers, 100 or more, are in a dense umbel. A rare and unusual plant from Holland, very pretty. \$3.50 ea.

**H. coccineus. Blood Lily.** This rare amaryllid usually produces two leaves, which lie almost flat on the ground. They grow all winter and die down in early summer. In



early Sept. or later the flower scape appears, preceding foliage. This scape furnishes part of the floral display, being marked by contrasting red spots on a bright background. The 4" umbel consists of very numerous small, densely placed blood red flowers. These are followed by the fruits which turn red upon ripening. Each fruit will contain one or more large seed which may be planted and handled like *Clivia* seed. In the south plant the bulbs with top even with soil surface. Sandy loam preferred, abundant leaf mould and a little peat. Half shade. Easy in pots, where half of bulb may be above soil. Stock very limited. Order early. \$3.00 ea. Jumbo bulbs, \$4.00.

**H. puniceus.** Smaller, evergreen plant that makes a desirable pot plant of easy culture. Small umbel of scarlet flowers, on a mottled 12" stem, followed by red fruits. Flowers in spring as a pot plant. Delivery any time. \$3.75 ea.

**Hemerocallis. Daylily.** The flowers range in color from dark bronzy red, thru pastel tones of pink to orange and yellow. They are borne on a branching scape well above the foliage.

The Greek name, meaning "beautiful for a day," refers to an individual flower. But these are so freely produced, thru a long period that "beautiful every day" would be more apt, as a collection of several sorts show masses of flowers thruout the spring, summer and fall and here we often have some winter flowers. The modern sobriquet of "The Perennial Supreme" is well deserved.

**Culture.** While their beauty is their greatest recommendation, their easy culture and hardiness adds to their desirability. They will succeed where any plant will succeed. I have known abandoned plants here, where we have arid, hot summers, to persist for years. They grow well in full sun. Slight shade is better. If given constant moisture about their roots, preserving this and coolness of the earth with a good mulch, the plants are ideally situated and respond with generosity. They are hardy even in severe winters in the north. They are fibrous rooted, not bulbs, and must be planted at once when received. Altho they can be moved any time, it is better to ship from late fall to early spring.

They are an almost perfect border or landscape plant, never have to be dug and replanted. All that you must do for them is keep the weeds down and water. A heavy leafy mulch helps every way.

In Daylilies, the sepals are colored and petal-like and are an essential part of the floral display.

**Hemerocallis Araby.** A lovely pastel color, with the effect of bronze on gold dust. 30". \$2.00.

**H. Calypso.** Large, fragrant lemon yellow flowers. Opens in evening. 42". June-Aug. 30c ea. \$3.00 per doz.

**H. Chengtu.** Brilliant coppery orange-red with carmine mid-zone. 3 ft. July-Sept. 50c ea.

**H. Cinnabar.** Cinnamon sprinkled over orange. Strongly gold-glistening. July-Aug. 60c ea.

**H. Crown Prince.** Color like Mikado. 30". June-Aug. 30c ea. Per doz. \$2.75.

**H. Dauntless.** Cadmium yellow. Fulvous red blended in mid-zone. Pastel effect. 30". June-Aug. 75c ea.

**H. Florham.** Still popular old hybrid. Large, golden yellow. May-July. 50c.

**H. Florida.** Pastel shades. Light chrome yellow with rose blush. Darker mid-zone. \$2.50.

**H. Kwanso.** The Double Orange Daylily. 25c ea. 3 for 50c.

**H. Linda.** Petals, ruffled golden yellow, flecked with cinnamon with rose-zone. Sepals, pure yellow. Very lovely. \$1.50.

**H. Margaret Perry.** Brilliant orange-scarlet. 4 ft. July-Aug. 35c.

**H. Mikado.** Orange with mahogany-red zone. A favorite. 3 ft. May-July. 50c.

**H. Radiant.** Rich orange. 42". June-July. 50c.

**H. Serenade.** Rose-fulvous markings on apricot cream. Faintly overcast darker. 4 ft. June-July. \$2.00.

**H. Soudan.** Lemon yellow. Broad wavy petals and sepals. 3 ft. June-July. 50c.



**H. Spitfire.** Originator's description. Seems never to quit blooming in spring and summer. Fiery red with yellow midrib, yellow throat. Small flowers but in great profusion. 2½ ft. Here it blooms nearly all the time. \$1.00 ea.

**H. Vesta.** Deep orange with glistening gold sheen. 30". May-July. \$1.00.

**H. Vulcan.** Dark maroon-red. 30". July-Aug. \$2.25.

**H. Buck's Hybrids.** These were produced by a very talented Daylily expert, Mr. Quinn Buck. Most of them are good enough to name and introduce but because they are not distinctly different from other named varieties, it has not been done. No descriptions, but yellow, gold and orange predominate. Price, single plants, 25c ea. 5 for \$1.00. We can furnish large clumps that will make fine specimen clumps for \$2.00, by express, f. o. b.

**Hymenocallis. Spider Lilies.** The true Spider Lilies are pure white with long narrow petals and long stamens, giving a fancied spidery appearance. The so-called Red Spider Lily and Golden Spider Lily are *Lycoris*. **Culture.** They are hardy in the south and may be planted deep on the border-line as in N. Car., Okla., etc. They do exceptionally well in pots.

**Hymenocallis sp. Tropical Spider Lily.** This appears to be the same as *H. rotata* and *H. tenuiflora* and these two appear to be one species. This is a large species, with pure snow-white flowers over 7" wide. 50c ea.

**Ismene.** We will list these in the Spring Catalog as spring is a better time to plant them.

**Leucojum aestivum.** Hardy in north. Blooms often before snow is gone. Dainty white flowers, each petal with a vivid green dot. Plant 4" to 6" deep. Do well in full sun, a little better in half shade. Last fall's price was 90c doz. It is often priced at twice this. This fall we dug our entire field and will offer you a special. 50c doz., postpaid. Larger blooming size, \$2.50 per 100; \$20.00 per 1000. Assorted sizes, medium and small, many should bloom, \$1.00 per 100, \$7.50 per 1000, by express, f. o. b. These are fine bulbs to plant under deciduous trees. These prices are below wholesale rates.

**Lycoris** are natives of Japan and China. A few of them are now scarce because none can be imported. Most of them are winter growers.

**Culture.** The species *Radiata* do well in any good garden soil containing humus. All *Lycoris* prefer neutral or mildly acid soil.

**Lycoris radiata. Red Spider Lily.** Coral red flowers in a several flowered umbel in Sept. Flowers are followed by the foliage. Flowers have narrow undulate petals and long stamens which give the "spidery" appearance. This is a common flower in the south and one of our most beautiful. Hardy along coast to North Carolina and on Pacific Coast to Vancouver. In pots it flowers only the first year. 35c ea.

**Nerine.** This genus is seldom seen in America, altho it is one of the most beautiful and varied of the Amaryllids. They bloom in succession from Aug. 1 thru Jan. They are hardy only in the south where temperatures seldom go under 26°. But they are one of the finest pot bulbs. **Culture:** Pot or plant in mildly acid to neutral soil. Sandy soils are more likely to be acid and drainage is better. Use peat or leaf mould to bring soil to pH 6.5 or 7. Alkaline soil is the most frequent cause of failure. Pot bulbs at once with bulb well covered and 2" to 4" deep in gardens. Full sun. When foliage yellows withhold water but be sure they have made a vigorous growth.

**Nerine Bowdenii.** 10 or more rose pink flowers in an umbel 9" wide on a 15" scape. The finest of all and of easy culture. Dec. delivery. \$1.00 and \$1.50 ea. Budded (usually in Dec.) \$2.00 ea.

**N. filifolia.** Lovely small *Nerine* with evergreen thread-like foliage. Carmine pink flowers on 12" stem. A dozen bulbs may go into a 6" pot. Bloom in Sept. Delivery, any time. 15c ea. \$1.25 doz. If ordered after Sept. 15, you may get no flowers the first year.

**N. magnifice.** Pinker and larger than *Bowdenii*. Very fine. \$1.50 ea.

**N. massonorum.** Earliest, often mid-July. Foliage like *N. filifolia*. Flowers resemble it but smaller, on a shorter scape. Very long spathe. Delivery any time. 50c ea.

**N. species unknown.** This is either *undulata* or *erubescens*, which are very similar. Flowers similar to *filifolia* but larger and on a 15" to 18" scape. Fine for cutting. 75c ea.





**SPREKELIA FORMOSISSIMA  
SUPERBA**

**The Alliae.** This group is now placed in the Amaryllis family. Sandy loam is preferred. Do not add too much leaf mould and no peat, as very acid soil is not good. Plant about 2½" deep. The species Allium are onions and should be grown in full sun unless noted.

**A. sativum.** Burbank's Elephant Garlic. This is the largest, juiciest and sweetest garlic and the easiest to peel. It often makes solid bulbs about 2" diam. Others divide into very large cloves. Clusters of bulblets form at the base like Gladiolus. The flowers and plants are ornamental in the herb garden or border and give a delicious flavor to salads, etc. 15c ea. \$1.00 per doz. postpaid. Bulk, \$1.00 lb., f. o. b.

**A. Schoenoprasum.** True Chives. Lovely little plants with lavender flowers, used for edgings in the flower or herb garden and add zest to salads. 10c ea. 4 for 25c.

**A. tuberosum.** Oriental Garlic. A pretty Allium with white flowers. An ornament in the garden, indispensable in the herb garden. Leaves give a most delicious flavor to salads without the long-lasting high-powered after-effect of garlic. In north, winter the plants in pots. Plants 25c each.

**A. triquetrum.** Very fine white

**Sprekelia formosissima superba.** We found this variety (described and named by Hayward in 1938 Herbertia) in an old California Garden. The flowers are about twice as large as the common type, a lighter and more pleasing red color. The foliage is evergreen and the flowers are freely produced at intervals thruout the year. We call this the Orchid Amaryllis because of the orchid-like shape. Jumbo bulbs, 75c ea. M. 50c ea.

**Sternbergia lutea.** Winter growing, bright yellow amaryllid. Often called "fall Crocus." Most desirable. Hardy in middle south. As it flowers in early fall please order as soon as you receive this catalog so that you may see the flower. A hard-to-get blub. Plant 3" deep, full, or nearly full, sun. 25c ea.

**Tulbaghia violacea.** A close relative of Agapanthus, but small enough to plant 3 in a 5" pot. Flowers are mauve to Chinese violet in an umbel on 24" stems. Begins as soon as established and blooms almost continuously thru the year—winter and summer. Foliage has garlic odor when bruised. 35c ea. 3 for \$1.00.



**TULBAGHIA VIOLACEA**



flowering allium. The many large flowers in a large umbel are pendulous. It does well in full sun like most alliums but even better in partial shade. 10c ea. 4 for 25c. 60c per doz.

**Brodiaea uniflora.** Lovely porcelain blue flowers on a low plant. Usually grown in pots in the north but they are hardy in Ohio. For a pot of bright blue flowers in winter, to go along with Oxalis, plant 6 in a 4" pot. They must have a cool room. Culture, like freesias. 4 for 15c. 40c per doz. \$2.75 per 100. By express, f. o. b., \$2.25 per 100, \$20.00 per 1000.

## BULBS FOR CHRISTMAS PRESENTS

Give bulbs or orchids for Christmas, birthday, Mother's Day, Anniversary or any time a present is desired. They are ideal presents for flower lovers. It is much easier to order bulbs or orchids than to shop in the crowds unless you are like the homely woman who said she loved a crowd because it was the only place where any one ever hugged her.

### IRIS FAMILY—Iridaceae

The **Iris** is the type genus of this family, which includes *Iris*, *Gladiolus*, *Watsonias*, *Freesias*, *Sparaxis*, *Tritonias*, *Babianias*, *Dietes*, etc., listed on the following pages.

**Tall Bearded Iris.** These will be listed in our spring catalog which you will receive in Jan. We do not advise late fall planting as the plants are unlikely to flower the following spring.

**Dutch Iris.** These are bulbous *Iris*. The flowers are not fragile like bearded *Iris* and they are therefore very useful for cutting.

**Culture.** They should be planted in the fall before Oct. 30 as the bulbs often deteriorate after that date. Later plantings may succeed if bulbs are good and not infested with plant lice. Plant 1" to 3" apart and 3" to 4" deep depending on size of bulbs. They are hardy in milder sections of north but a mulch is advisable. Full sun or slight shade.

**Blue Horizon.** Very beautiful flower, broad and sturdy. Light violet blue standards and soft sky blue falls. 27" tall. 3 for 25c. 85c doz.

**Imperator.** Tall, dark blue. Favorite for cutting. 3 for 20c. Per doz. 70c.

**Jacob de Wit.** A very early dark blue. 3 for 25c. 85c doz.

**Wedgewood.** A most lovely Wedgewood blue. The earliest to flower. Popular florists flower. In the north it needs protection of a winter mulch. It will force in pots. 3 for 25c. 85c per doz.

**Yellow Queen.** Pure deep golden yellow. Early. We got a better price for our cut flowers last season than we priced the bulbs. 3 for 20c. 75c doz.

**Assorted varieties.** The above and other sorts. 3 for 25c. 85c per doz.

**Iris Spuria** should be planted in the fall in full sun or part shade. Set the rhizome shallow as for bearded *Iris* and keep moist until they are established. Altho they do well under average garden conditions they do best with abundant moisture.

**I. spuria aurea.** Deep yellow. 50c.

**I. spuria ochroleuca.** 4 ft. White with yellow blotch on falls. Excellent cut flower. 35c.

### Gladiolus

**Culture:** Glads planted Nov. 15 to Mar. 1 in Southern California and thruout the south (a little later in Northern California and early as possible in spring in the east) are reasonably sure to escape the attack of thrips. Our Glad bulbs are especially grown for this purpose, matured early and dug in August. But if you plant recently dug bulbs you will gain nothing; they will continue their rest of three months before starting.

**Thrips** are very small insects that suck the juices from the plant. They cause the flowers to wither or appear burned, and appear only after weather becomes warm.

To avoid the damage they do, four measures are effective: Plant early; plant clean, treated bulbs; keep them always moist by overhead sprinkling. *Gladiolus* that are sprinkled one-half hour every evening are more likely to escape thrips damage.

The most effective method of getting rid of them if they appear in the garden is to



dust with a powder, 5% D. D. T. and Sulphur 95%. Since prevention is better than cure we begin to dust when plants are 1 ft. tall and dust 4 or 5 times during season. Dust in early morning while plants are moist with dew. The powder is sold under several trade names and any small type of duster will do the work.

**Treating Bulbs.** For several years we have treated our bulbs with Lysol and recommended it to our customers. There have been certain indications of results not entirely satisfactory. Many growers are discarding the practice. As a preventative of thrips infestation of the bulbs this year we will dust the bulbs with the same D. D. T. powder that we use on the plants. Apparently it has no harmful effect. One can use a little naphthalene flakes sprinkled over bulbs stored in shallow trays and then covered by paper for about 3 weeks. This will kill thrips but too much or too long exposure may delay sprouting of bulbs.

Our bulbs will be treated with D. D. T. before selling. Since D. D. T. is a poison, do not allow the baby to play with them. Outside of placing the bulbs in the mouth no harm will result.

**Plant** 4" deep; small 3"; bulblets 2". Twice their diameter apart. One can plant two rows, staggered in a 4" wide furrow or closer in a single row. Rows about 20" apart. Alkaline soils produce poor Glads. Soil should be neutral to mildly acid. Leaf mould or peat added is useful. Peat causes soil to dry out more rapidly and imported peat is hard to get. Domestic peat is often harmful because alkaline. Use no fresh manure, but well rotted manure is good. Top mulch of leaf mould or imported peat is good.

Keep Glads growing with plenty of water and best culture for about two months after flowering. It is best to dig bulbs in the south, and necessary in the north.

**Sizes and Prices.** L. means "large," size 1 and 2, 1¼ - 1½" (or more) in diameter. M. is "medium" and includes No. 3 and 4 sizes, ¾" to 1¼" diam. S. means "small," under ¾" diam. Large and medium bulbs give good long spikes. Small bulbs usually bloom in most varieties and when planted early, given good culture and plenty of water they usually make fairly long spikes. Early planted bulblets often flower. Large bulbs bloom earlier and throw more and longer spikes. **Prices** are for one bulb as elsewhere in this catalog. A dozen, all of one sort, costs ten times the price of one unless otherwise stated. Six are sold at dozen rate. Don't forget **Sales Tax** in Calif.

Orders for Glads will be filled by Nov. or early Dec. in time for early planting. We suggest you order at once with remittance to be sure you get them as our stocks are limited.

**Substitution.** If you order early there is likely to be no substitution, but when out of a variety we send another as nearly like it as possible and of equal or greater value. If you do not approve this, request no substitution.

This fall we are offering many of the newer and better varieties that have been increased to a quantity where they can be sold at medium prices. A few of the older ones, still desirable, are retained.

**Allemania.** Immense rosolane purple flowers on very tall stem. L. 10c ea. \$1.00 doz.

**Amber Glow.** Tall, amber yellow. L. 10c ea. \$1.00 per doz.

**Big Top.** Light pink with carmine feather. 6 ft. tall. The gorgeous, immense flowers and its height give great distinction. L. 20c ea. \$1.75 doz.

**Black Opal.** Very deep maroon red. The best dark red, almost black. Many flowers open on tall exhibition spikes. L. 10c ea.

**Blue Beauty.** We consider it the best blue. Much better than Pelegrina. L. 10c ea.

**Burma.** New ruffled, deep rose red. L. 30c.

**Capeheart.** Light salmon rose. Large fls., 8 open. Early, commercial cut flower and exhibition. L. 15c ea. \$1.50 per doz.

**Chamouny.** Tall, deep cerise rose. Unusual and very beautiful. L. 15c.

**Chas. Dickens.** Tall, large flowered radiant purple. Contains a few rogues, but all good ones. L. 6c ea.

**Corona.** Cream, edged pink. Some consider it the most beautiful glad. L. 12c ea.

**Elizabeth The Queen.** The best lavender. Immense ruffled flowers. L. 20c ea. 2/35c.



**Ethel Cave Cole.** Florists favorite pink. Tall, large fls., many open. L. 10c ea. Jumbo size 15c. M. 8c. S. 5c.

**Jeanie.** Fine tall pink with cream throat. 10c. \$1.00 doz.

**Los Angeles.** Orange pink. Good forcer in 8" pots. Fine winter grower in south. L. 5c.

**Margaret Beaton.** Large white, scarlet throat blotch. Popular commercial. L. 6c ea. 60c doz. M. 5c. 45c doz.

**Oregon Gold.** Exquisite, tall ruffled light yellow. L. 15c ea.

**Pacifica.** Fine, tall early white. L. 15c.

**Pelegrina.** Early deep violet blue. 1 to 1½" 5c ea.

**Purple Supreme.** New tall purple, edged silver. L. 20c.

**Rosa van Lima.** Tall, beautiful rose pink. L. 10c.

**Shirley Temple.** Immense ruffled cream. L. 10c.

**Snow Princess.** New pure white. 10c.

**The Orchid.** The small lacinated flowers resemble orchids in color and form. Not much larger than a baby Gladiolus. Bulbs 1" or over, 6c.

**Wanda.** New cream sport of Picardy. L. 10c.

**Assorted varieties.** We have many small lots, accidental mixtures, etc., to include here but it is not necessarily a "balanced mixture" and you may get few or many varieties. Sizes 1" to 1½". 5c. 50c per doz.

## Watsonias

Close relative of the Gladiolus but winter growing and earlier in bloom. They grow as tall or taller. The flowers are smaller but in very lovely spikes useful for cutting. The colors are varied, in most pleasing pastel tones, and bloom early if planted early. Better even the second and third years. Easy to have them for Decoration Day or before in Southern California. In most cases we have discarded names and substituted the name of their color.

**Culture:** About the same as Glads. In the south they must be planted in early fall (Sept. best) as the bulbs sprout early. Hardy at Washington, D.C., and probably in all climates where temperatures do not go below zero, if planted in a well protected place, 4" deep and well mulched. On the border line of their hardiness, as in Virginia, they have been grown and flowered in an unheated cloth house and survived outside temperatures of slightly under zero. They must be grown very cool in greenhouses.

**Burbanks Lavender.** Large lilac flowers. 10c ea. 65c doz. postpaid. \$4.00/100, f. o. b.

**Rosolane Purple.** 10c ea. 65c doz. postpaid. \$3.50/100, f. o. b. express.

**Mrs. Bullard's White.** Tall pure white. A favorite of florists. 10c ea. 65c doz. postpaid. \$3.50/100 f. o. b. express.

**McCoy's Florist's White.** Creamy white flowers. A smaller plant with smaller bulbs. 15c ea. \$1.00 doz.

We can also furnish the following colors in lots of a dozen or less: **Grenadine, Daphne Pink, Deep Rose Pink.** You may not agree with my color classification and some of these contain rogues or off-colors. Price 15c ea. \$1.00 doz.

**Assorted colors.** 10c ea. 65c doz. postpaid or \$2.50 per 100, f. o. b.

**Wholesale.** If you grow commercially in a small or large way or wish to plant in considerable quantity for your own use we offer you quantity prices much below usual wholesale. Do not attempt to grow them where winter temperatures go below 10° under zero except in a greenhouse and where temperatures range 10° below to 5° above it is safer to plant in a cloth house or unheated to slightly heated greenhouse.

The 100 rates above are low wholesale prices. In addition we offer Burbank's Lavender, Rosolane Purple and Mrs. Bullard's White for \$25.00/1000 and the assorted varieties for \$20.00/1000. By express, f. o. b. 500 bulbs are offered at 1000 rates.

**Freesias, Sparaxis, Ixias, etc.** These species require similar treatment. The "etc." species will have separate culture directions.

Freesias, Sparaxis and Ixias are hardy outside where temperatures go as low as 26°. At about that temperature some of the foliage will be damaged, flowers will be injured



or even destroyed but bulbs will live and grow the following year. Freesias are the most tender. One can protect with burlap sacks, cartons, etc., in case of unusual cold but these are for outside gardens in the deep south only.

Large bulbs may be planted 2" apart, 3" deep. Full sun exposure preferred. It is best to plant from Sept. 15 to Dec. 1, early preferred for best results. Ground should be moist when planted and continual moisture furnished when growth begins. Rich sandy loam containing much humus is best soil but heavier soils made lighter with large quantities of leaf mould or other humus give excellent results.

**In pots** they should also be planted early tho the shorter stems resulting from Nov. planting are not so objectionable. Use the regular potting soil, sandy loam and leaf mould or well rotted dairy manure. Be sure to give them a sunny window and a cool room if flowers are wanted. Warm rooms over 70° will produce long spindling foliage, but seldom flowers. Small bulbs will flower in the garden but for forcing in pots they should be ½" in diameter or more. Comparison of results obtained from different sizes will show that the larger sizes up to 1" diam. bloom a little earlier, have larger flowers, more flowers on a stem and longer stems than smaller sizes. The larger sizes are more expensive but one gets as large a floral display from \$1.00 worth of large bulbs as from the same value of cheaper small bulbs.

**Freesias** are the most deliciously fragrant flowers one can grow. The fragrance is not too heavy and is not cloying in the house or outside. The first four in this list are the new Tecolote Giants. They are much taller and flowers equal the size of Baby Glads. Freesias are very easy in pots and are most desirable for both beauty and fragrance.

**Marie** (Tecolote). Gorgeous, pure white Freesia. Deliciously fragrant. A giant in size. Bulbs ⅞" - 1" diam. 25c ea. \$2.25 doz.

**Talisman** (Tecolote). Bright orange pink with cream throat. Like color of a Talisman rose. ¾" - ⅞" 15c ea. \$1.25 doz.

**Tecolote Red.** ¾" - ⅞". 15c ea. \$1.25 doz.

**Tecolote Blue.** ¾" - ⅞". 15c ea. \$1.25 doz.

**Golden Daffodil.** ⅝" - ¾". Deep golden daffodil yellow. Richly fragrant. Easy to force in pots in any size over ½" but our larger bulbs are easier and better than the cheaper ½" bulbs. The ⅝" bulbs are sold at low prices but they will not force. 2 for 15c. 65c per doz. \$5.00 per 100.

**Sparaxis** are closely related to Freesias, but are far more colorful. The colors range thru vivid tones of bright red, crimson, carmine, pink, apricot and sometimes an almost white one. A few reds are almost maroon. There is usually a contrasting color in throat. They are a little taller than Freesias and the flowers are larger, more flat and wide open. For pots, or winter flowers, few plants will create as much bright color as Sparaxis.

**Houdyshel Hybrid Sparaxis.** We have grown and selected seedlings from the original Dutch varieties and now have a much more colorful strain. The colors mentioned above are descriptive of this strain and we can add that occasionally one finds colors approaching yellow, or blue. 10c ea. 6 bulbs for 40c. 75c doz.

**Small bulbs** bloom well in the garden and even in pots they usually flower. Price 35c doz.

**Tritonias** are also close to Freesias but taller. **Culture** like Freesias and Sparaxis.

**Tritonia lineata.** This interesting species grows 18" tall. The flowers are white, crossed with grey lines, hence "lineata." 3 for 15c. 50c doz. We were fortunate in being able to dig a good crop of these and offer these **Wholesale** for \$2.50 per 100, postpaid or \$2.00 per 100, 500 for \$8.00 f. o. b.

**Ixias** are 2 to 3 ft. tall. They have slender, wiry stems and are nice for cutting. The flowers close at night and on dark days but the long closed buds look like pink striped, oblong pieces of bright colored candy and sometimes I think they are prettier than the open flowers.

**Ixias**, assorted colors, 2 for 15c. 50c doz.

**Babianas.** Blue flowers for the winter window garden are hard to find. **Babianas** are the answer. They are a vivid, intense blue to blue violet. **Culture** exactly like Freesias, Tritonias, Sparaxis and Ixias in pots or garden except they should be planted about twice



as many in a pot or given space. Though the bulbs are small, they like to be planted about 3" deep in the garden and 2" in the pot.

**Babiana hybrids.** 3 for 15c. 50c doz.

**Marica gracilis. Walking Iris or Apostle Plant.** The fugitive 2" flowers, white and blue with yellow and brown markings in center, are lovely. The flowers are followed by a small plant at end of leaf-like scape. These become heavy and bend over to ground and take root, thus walking away from mother plant. **Culture:** give nearly full shade, plenty of water, never drying out. Tender tropical but grown in pots in north. 50c ea.

**Moraea polystachia.** African representative of the Irids. 2 ft. stems, covered by a multitude of flowers, mauve and violet with yellow in throat. Blooms profusely in the winter in Calif., beginning 6 weeks after planting or in pots in the north. **Culture** like freesias. 10c ea. 75c doz.

**Dietes.** This genus only recently has been removed from Moraea and given a new generic name. Dietes differ from Moraea in having a rhizome, similar to the Bearded Iris, and sword-like leaves. Flowers are very much like those of Moraea, borne on long wiry stems thruout summer into winter. **Culture** like Iris. Dietes are evergreen and they cannot be dried off. Plant at once and keep them wet or they will not start. The flower stems are perennial and should not be cut off as they flower year after year. They are not hardy where temperatures go below about 15°.

**D. iridioides.** White with yellow and blue markings. 35c ea.

**D. iridioides Johnsonii.** Flowers are about twice the diameter of the type variety above. Plant more robust. True variety. 50c.

**D. Oakhurst Hybrids.** New hybrids that soon make large clumps that are very ornamental in the garden. Flowers freely in summer with a few most of the time in winter. 2" flowers on 4' stems. 50c ea.

## LILY FAMILY—Liliaceae

The type species is *Lilium*, or true Lily. Many call *Crinum*s, *Callas*, *Cannas* or any bulbs "Lilies," but this is an error.

**Lilium.** This genus includes all true Lilies. **Culture.** It is better to plant all true Lilies in the fall altho one can plant the stem rooting sorts in the spring but with results not quite as satisfactory. *Regale* and *Maxwill* are stem rooting and should be planted 6" to 12" deep. *Pardalinum* makes roots from the base of its bulb only and should be planted only about 4" deep to top of bulb. These lilies will all be hardy in milder northern states but a good mulch helps them in all climates and in all seasons. They need a mildly acid soil. A great deal of humus, as leaf mould or peat, should be mixed with soil. Lilies must have their feet cool and their heads warm. Therefore planted among low shrubs or plants where tops are in the sun is ideal. They do very well in the half shade of trees or a lath house.

**Lilium Maxwill.** Cross between *Willmottiae* and *Maximowiczii*. It has the lovely flowers of *Willmottiae*, orange yellow with recurving petals and black dots scattered over them. The *Maximowiczii* bequeathed tall stems, many flowers and hardy thrifty growth. It is a sturdy lily that will do extremely well in ordinary garden culture. Sizes at 50c and 75c ea.

**L. pardalinum.** California native and very easy to grow. Many deep orange flowers, shading to red at tips. Needs partial shade, moist but well drained soil. Plant 4" or 5" deep. Blooms June, July. Hardy. 25c ea. Largest bulbs 35c. \$2.50 and \$3.50 per doz.

**L. pardalinum giganteum. Sunset Lily.** A hybrid of *pardalinum* and a glorified replica of it. Bright red with brown dots. 50c ea.

**L. regale.** White with cream throat and tinted pink on back of petals. A favorite, easily grown garden lily. Sizes at 20c, 30c and 35c ea. The larger bulbs give more flowers in greater proportion to cost.

**L. regale, improved.** Larger and whiter flowers. We have only a few bulbs at 75c ea.

**Easter Lilies.** The lilies commonly known under this name are all varieties of one Japanese species, *L. longiflorum*. Bermuda was the first to grow these commercially for forcing. The one grown there is var. *exima*, usually known as *L. Harrisii*. Before the



recent war, we obtained Easter Lilies for forcing mostly from Bermuda, Formosa and Japan. But during war, their importation was impossible. The small stock in America became immensely valuable. This pure white lily is traditionally associated with Easter. It is used on altars. It is given for presents. It belongs in our home on that date. Plants with a few lilies open sold for \$5.00 or \$10.00 easily one year, there were so few, and the next year there were none.

A man named Croft found a few bulbs of a very sturdy, disease resistant, rapid multiplying type. Upon these as a foundation a new industry has arisen,—growing Easter Lilies in Oregon and No. Calif. or elsewhere.

At first prices were fabulous and several growers became wealthy. Now prices have settled down to the pre-war level. Stocks are abundant. With the cooperation and support of the public we shall have better and healthier bulbs, at no greater cost and they are an American product. It is worth noting that many bulbs are being offered this year at low prices. A blooming size bulb may be so small that only one or a very few flowers will be produced. When you compare prices, compare sizes. Unfortunately few advertisers state exact sizes. We do. In addition we tell you how to force them and when to plant for Easter flowers; how to slow them down or hurry them up.

**How to Force Easter Lilies.** Use clean pots. If new, soak them two days in a large container of water to remove chemicals. Use 6" or 7" pots. Read our general potting directions. The advised soil is 3 parts of rich sandy, fibrous loam. If humus is not abundant in this let it consist of the best sandy loam available about one half and fine screened and well rotted compost or leaf mould, one half. Peat may be used in place of compost but use only half as much, rub thru a fine screen,  $\frac{1}{8}$ " mesh, and if previously rotted it will be better. To this three parts add one part well decayed cow or horse manure. Use no fresh or half decayed manure. Screen it well and thoroly mix with the soil.

Pot the lilies as soon as received. Fill pots about half full of soil and place bulb in center. A half inch layer of fine sand or sandy loam in immediate contact with bulb, especially the base, is good practice. The pots are now placed in a cool situation under 40° but not under 34°. In the north this may be in a cold frame, packed in sphagnum, straw or sand to surround and cover pots. A cold frame or box is also good in the south but the cool temperature is necessary. A box in a room or basement will do, **if cool**, or under the cool shade of a large tree. The bulbs will root readily, and the temperature must not be raised to more than about 40° until roots are abundant. But not too cold. This is a semi-tropical lily and they must not freeze.

When brought into the house, the temperature should be 45° to 50° at night, not much over that in day time for 7 to 10 days. When top growth shows give 60° at night, 70° in day time. It will require about 13 weeks at a temperature of 60° until flowers open. A little longer time must be allowed if dark or cloudy weather is expected. Longer days in south will slightly shorten the time. To retard or hasten bloom raise or lower temperature. But do not raise temperature to over 70°, just raise the average. Too warm a temperature results in poorer keeping qualities of the flowers. Do not try to retard until buds have lost their green color. Do not alternate retarding and advancing. When once retarded it is difficult to make them develop rapidly again.

All this requires good judgment and experience only will develop this so that you may expect to be always able to have flowers on an exact date. Consulting experts or written authority will give you very little more help than you have here. Artificial light will hasten flowers a little but do not withhold day time light in order to retard.

Potted lilies should not be given strong sunlight. Greenhouse glass should be shaded lightly. In the house a muslin curtain may sometimes be necessary but use it only to temper bright sun. Syringe the foliage of lilies on bright mornings. But never in the evening or on cloudy days. The water for syringing and watering should be warmed to 70°. Good ventilation is important.

**Croft Lily.** This lily makes a shorter stem and the flower head is more spreading. For this reason it is usually preferred for forcing in pots. Price, 7" circumference (nearly 2 $\frac{1}{4}$ " diam.) 35c ea. 8" cir., 60c ea.



**Royal Lily.** This is a Croft variety. It grows taller and has less spreading inflorescence. It is more hardy for outside growing and equal sizes compared, it will give 2 or 3 more flowers. 7" bulbs, 35c. 8", 60c ea.

**Planting Stock.** Send a self-addressed postcard for a quotation.

**Roman Hyacinths.** Have single flowers, usually, and a less dense raceme than the Dutch Hyacinths but they have equal fragrance and great beauty in the garden or in pots. **Culture,** the same as for Dutch Hyacinths as noted below, either in gardens or pots. Our bulbs are nearly all white but a few are blue and now and then you may get a pink one. We can only call them **Assorted**, 25c ea.

**Dutch Hyacinths** are loved by every one and have been for more than a thousand years. Their exquisite beauty, rare fragrance and easy culture contribute equally to this result.

**Culture.** Hyacinths are winter hardy but in cold climates a good mulch is advisable. Plant 3" or 4" deep in rich sandy loam containing much humus. For **forcing in pots** use a 4" or 5" size. Use clean light sandy soil but no humus or fertilizer. Read our general potting directions. Set the bulb under soil with top just showing. Plunge the pots outside in a cool shady place as recommended for lilies or daffodils. Cover tops of pots with 2" of soil and mulch with straw or leaves. Control the moisture so that they are always moist but never very wet. Drainage under the pots must be good. In about 6 weeks (or longer if necessary) they should be well rooted. They may then be brought into the house to a temperature about the same as for Easter Lilies. In all stages of growth they should be moist but if excessive there is danger of causing the bulbs to rot.

Our bulbs average 16/17 cm., a few may be 15 and some are at least 20 cm. We have **L'Innocense**, white; **Jan Bos**, carmine red; **Marconi**, deep rose; **Pink Pearl**, pink; **Bismarck**, light blue; **Ostara**, indigo blue. Prices, 40c ea. One bulb of each 6 varieties, \$2.35. Assorted and unlabelled, but fairly well balanced, \$3.90 doz. or 6 for \$2.00.

**Muscari, Grape Hyacinths, var. Heavenly Blue.** Racemes of closely packed, exquisite, tiny blue bells. Fine in pots or garden. Our bulbs are fine and large this year. L. 2 for 15c. 50c doz. Per 100, \$3.50. Blooming size, 35c doz. \$2.25/100.

**Scillas** are closely related to Hyacinths. All are hardy except *S. peruviana*.

**Scilla hispanica.** Assorted colors and sizes. Plant in shade. 50c doz.

**S. hispanica, var. Excelsior.** Giant, dark blue. The best, 25c ea. 6 for \$1.25.

**S. hyacinthoides.** Winter hardy in north. The densely fld. raceme of deep blue is often 3 ft. in height. Flowers are useful in arrangements and sell well to florists. Plant in full sun. L. 20c, M. 15c. Small bulbs, 75c doz. postpaid or \$2.00 per 100, f. o. b.

**S. peruviana.** A fine blue flower for pots in the north or for southern gardens. The flower scape is short but above the foliage. The flower head is a compact, conical wide raceme, ideal in a potted bulb. L. 30c, M. 20c.

**Ornithogalum arabicum.** Very showy. The round glossy black ovary in the center of the flower is in striking contrast to the pure white flower. This is hardy only in the south but if the largest bulbs are potted early and handled about the same as lilies they usually bloom about Easter. L. 20c. \$1.50 per doz. M. 10c ea. 50c per doz. A good blooming size for planting in southern gardens, 100 for \$2.25 f. o. b. Planting stock, small, a few should bloom, \$1.00 per 100, f. o. b.

**Lachenalias** furnish bright, cheerful flowers often by Dec. 25 if planted by Oct. Reasonably sure for Jan. bloom. Small bulbs and plants with one or two leaves, themselves decorative, with a 6" to 12" flower scape that carries 12 to 24 tubular flowers, 1" long. **Culture.** Very tender and hardy only in deep south with a minimum temperature of 24°. They are very easy to force in pots and require a cool room, full sun. Plant several in a 4" pot.

**Lachenalia aurea.** Large, golden yellow shades. 20c. 4/70c.

**L. assorted varieties** and sizes, 15c. 6/75c.

**Veltheimia viridifolia.** This is one of the most beautiful plants one can grow in a pot. The glossy vivid green leaves are wavy margined and form a perfect rosette much like a bird's nest fern. From the center arises a scape with tubular, drooping flowers closely spaced. The color is a deep rosy or purplish pink of an ineffable tone not found in any other flower. It begins to bloom, if planted early, in So. Calif. gardens or other



equally mild climates or in pots in the north by Dec. 15 and continues for nearly 3 months as larger bulbs (which are much more economical) send up 2 to several spikes. **Culture** is very easy. Use a sandy or sandy loam soil to which is added fine screened peat or leaf mould about one-third or fourth. Some charcoal is good. Read general potting directions again. Order before Oct. 1 if possible as foliage starts in storage, but we can ship these until Jan. 1. Blooming size 50c. Large \$1.00. Extra jumbos will give you more flowers and for a longer time in proportion to cost. Price \$1.50 and \$2.00.

## Tulips

Tulips have paid us more profit as cut flowers than as bulbs, recently. But ours have been in one place for several years and need replanting. We offer a large surplus at extremely low prices. These will be sold only as mixed varieties as the labels of some have been lost and others have become mixed. These are Darwins, Breeders, Cottage and Bizarre (or variegated). Probably the variegated predominate.

**Tulip Culture.** Plant in Sept. to Nov., 4" to 6" deep in rich sandy loam. We have heavy soil and therefore lighten it by the addition of much leaf mould or other humus. Manure is good if one year old and well rotted. We plant in moist soil which will favor the development of roots after Oct. 1. Heavy watering before roots form is not advisable for any bulb. After there is a good start in root growth, 3 or 4 weeks after planting they may be watered. Thereafter they should have a good irrigation about every ten days unless rain is sufficient. The usual cause of failure here and in other arid climates is insufficient water. Tulips do well in Oregon where rainfall is very heavy. To succeed we must see that they have abundant moisture from Nov. 1 until maturity. Give them twice as much as you think they need.

**Assorted colors.** 1" and up. Some are nearly or quite 1½" diam. This size blooms well and the flowers are useful for cutting. Price 50c doz. 25 for \$1.00. \$2.25 per 100. Postpaid. Per 1,000, \$20 f. o. b.

**Planting stock** of assorted smaller sizes. Some of these are likely to flower. All should make flowering sizes in one year. Per 100, \$1.50 postpaid. Per 1,000, \$10 f. o. b.

## OXALIS FAMILY—Oxalidaceae

There are two types, the winter and the summer growing. The summer growing species are listed in our spring catalogs. The following are all winter growers. These are the brightest and most vivid of winter flowers for a sunny window or in the garden in the south. They give a profusion of bloom over several months period. A bed looks like a carpet of solid pink, rose, white, yellow, etc. The flowers are large, some over 1" diam.

**Culture.** Plant about 2" deep, 3" apart. Large bulbs may be farther apart and a little deeper. In pots, the smaller may go 6 in a 4" pot. Use good rich soil, altho they will grow in any soil. Give full sun exposure as they open only in full light and close at night. Order and plant early as they begin to sprout even in August. But they may be shipped even with long sprouts up to mid-October.

**Oxalis Bowiei.** A large plant with bright rose red flowers. 3 bulbs to a 5" pot. 5c ea. 50c doz. \$3.75 per 100. Largest size 10c ea.

**O. cernua. Bermuda Buttercup.** Deep golden yellow flowers. Very profuse. 5c ea. 50c doz. \$3.50 per 100.

**O. Grand Duchess.** Low growing plants, but give a profusion of very large flowers in three colors. The **Pink, Lavender and White**, 5c ea. 45c doz. \$3.00 per 100. Largest size 10c ea.

**O. Hirta.** One of the finest winter Oxalis, and most unusual as it makes a leafy stem that to some extent falls over and will trail down the sides of a pot. Nice for hanging baskets. The flowers are deep rosy red. 5c ea. 50c doz. \$3.00 per 100.

**Oxalis crassipes.** Flowers bright rose. Evergreen and everblooming. Increases by tubers and can be moved at any time. Plant at once. Large tubers, 25c ea. 6 for \$1.00.

**Oxalis Special.** The bulbs offered in this lot are assorted in size and color. They will all flower well. Some are accidentally mixed, others are surplus. Price 30 for \$1.00.



## THE CALLA LILY FAMILY—Araceae

This family contains the so-called Calla Lilies or Zantedeschia, Black Callas and other Aroids.

**Culture.** All Zantedeschias and *Arum palaestinum* are suitable for pot culture. *A. palaestinum* will start about September or later. Do not put this bulb into moist soil before that or it will rot. Zantedeschias—pink, yellow and spotted leaf—may be potted by about Dec. 15. Don't rush them, as too much water before they start to grow may rot them. They may be held back and started in early spring, here in late February. All do well in the garden in a moist semi-shaded cool place. They are not hardy in cold climates; dig in fall. The White Calla usually blooms in California in the garden in late winter. They may be planted in early fall in pots or garden. All do best in mildly acid soils, on sandy side.

It is an error to keep large White Callas growing continuously. If rested thru summer you will be rewarded with flowers. A rest brings flowers when they start again, often twice or more in a year. The Baby Calla should not be allowed to lose its foliage. Callas as pot plants need some sun, enough to prevent spindly growth, plenty of light and like all plants, good ventilation. They need abundant water but good drainage.

**Zantedeschia aethiopica**, var. **Baby Calla.** This is the smallest and whitest Calla. Small enough for corsage. We send small bulbs as the large bulbs make larger flowers, approaching in size those of Godfrey. For tiny 1" flowers replant your small bulbs. 20c ea. 3 for 50c. \$1.50 per doz.

**Z. aethiopica**, var. **Godfrey Calla.** This is the medium sized White Calla Lily. Grows to a height of 2 or 3 ft. It is much more suitable for growing in pots than the large type and the flowers are sufficiently large. They also bloom more freely. These are easy in pots, 7" in diam. They should be potted or planted in the garden as early as possible for winter bloom, tho they can usually be held back until mid-winter. Plant with bulbs covered by an inch or so of soil, in a good rich sandy soil with humus added. Blooming sizes at 20c and 35c. Largest bulbs for 50c ea.

**Z. aethiopica**, **large type.** We grow few of these because we consider them too large for pots. But they will do well if you have the space and the large pot. Small bulbs may be started in 8" pots but you may have to shift to a larger one. Smaller bulbs, 40c ea. M. 50c. Jumbo bulbs 75c.

**Z. albo-maculata. Spotted-leaf calla.** The prettiest foliage of all and worth growing for that alone. Endures sun best. Flowers, creamy white with dark throat. 25c and 40c ea.

**Z. elliotiana.** Pure golden yellow flowers. Requires more shade than others, but give potted bulbs part sun. 20c ea. 6 for \$1.00. Larger bulbs 25c and 35c ea.

**Z. rehmanni.** Dark rose pink variety. 50c.

**Z. rehmanni**, var. **elegans.** This variety has light pink flowers of a lovely shade. It is taller, larger and a better grower than the dark pink. More easy also to force in pots, but when forced many report they produce white flowers. Even in the garden some flowers are white with shell pink tintings. But the white ones are still lovely, more so than the white *Aethiopica*. 50c ea.

**Arum palaestinum. Black Calla or Solomon's Lily.** Foliage and flower like callas. Really black. Plant 4" deep and not before September 1. If not kept perfectly dry until that time the bulbs rot. Flowers in February in pots or in the garden in the south. No bad odor. Best in half shade. Sizes 50c, 75c and \$1.00.

**A. italicum.** Has attractive green leaves. The flower spathe is long, inflated, ivory white. No "perfume." 50c ea.

**Dracunculus vulgaris.** Rich tropical foliage and huge black purple flowers. Carrion odor. Hardy if planted deeper than frost penetration. Jumbo bulbs, \$1.00 to \$1.50 ea. See Spring Catalog for other Aroids.

## Gloxinias

There is scarcely a week in the year in which we do not have calls for Gloxinia bulbs or seed. We list them only in our spring catalog. Feb. is the best month to plant



but one can stretch the planting time thru Mar. April gives doubtful results for which we are blamed. Later than this it is impossible to hold the bulbs in storage in good condition.

## THE ORCHID FAMILY—Orchidaceae

Only two decades ago, orchids were practically unknown in amateur gardens. They were in very small numbers even ten years ago. Referring with apologies to my personal experience, I do not recall the possession of a single plant for longer than perhaps 13 to 15 years ago. Then I got a few *Epidendrums* and *Bletilla*, *Cymbidiums* a little later. Tried to grow our temperate zone natives and failed. Obtained a *Laelia* and several *Oncidiums*. Tried to grow *Laelias* in sandy loam. *Oncidiums* in sphagnum in cool, dense shade, seldom watered. Tall stemmed *Epidendrums* (*Euepidendrums*) in cool shade. I was not much of a success. Thru many blunders I had to learn to give the *Epidendrums* and *Oncidiums* more sun, a warmer temperature, at least in winter, and that one cannot keep alive and increase epiphytic orchids in a medium of soil even tho rich in humus.

I had to learn much the hardest way, thru failures. But I found sources of information, especially in Bailey's *Cyclopedia of Horticulture*, which I had since about 1906. I did not know even the name of my *Oncidiums*, so how could I look them up? Finally I moved one remaining pot to the greenhouse and it soon flowered. I found that it was *O. vericosum*, var. *Rodgersi*, not uncommon.

Not long ago, I was stating in our catalogs that *Cattleyas* were too difficult for amateurs. I mistreated the few I had by leaving them in too much heat, too little air. The flower buds blasted. I moved to proper conditions and one bud survived and bloomed. We now have quite a few *Cattleyas* and they are doing well.

We have also been stating that many orchids were an expensive luxury. But now we have increased our stock of *Cymbidiums* until we can offer some of them at low to moderate prices. American epiphytes have become more readily available and we can offer established plants at very reasonable prices.

***Bletilla hyacintha*.** Hardy terrestrial orchid. Very pretty plants with pleated leaves. Has 8 or more dainty, rose purple orchids on a 12" stem. Bloom in early spring. Plant the bulbs 4" deep in rich sandy loam to which an abundant quantity of leaf mould or peat has been spaded in and thoroly mixed. They need half shade and a frequent, liberal amount of moisture. 75c ea.

***B. hyacintha alba*.** A pure white form. 75c.

***Cymbidiums*** are the most desirable of easily grown orchids. One plant of 3 or 4 pseudo bulbs may give 2 or 3 blooming scapes with from 15 to 25 or more flowers on each scape. The flowers have a modest but intriguing beauty that renders them most desirable for corsages. They last several weeks on the plant and when cut the flowers may usually be worn a number of times if placed in a refrigerator between occasions. The flowers are 3" to 5" wide.

**Culture of *Cymbidiums*.** They are hardy in a lath house in So. Calif. and elsewhere if temperatures go no lower than about 24°. At that temperature flower spikes are likely to be frozen. Plants will survive even slightly lower. They must be grown in half shade of a lath house or trees. The soil should be sandy loam with equal portion of peat or well rotted leaf mould thoroly mixed in. Set the psuedo bulbs with base only slightly under soil surface. If there are no living roots, place pure peat in contact with base of bulb. After planting, sprinkle the foliage once or twice daily with only enough on the soil surface to preserve moisture without sogginess. When well rooted the water may be increased. The plants should never become dry and must never be soggy.

*Cymbidiums* do not flower for about two years after moving. Only in rare cases do they flower in a few months. We ship *Cymbidiums* loose roots. It is easy and safe. Many and often all roots die when disturbed. But the roots are readily replaced, usually within six weeks.

*Cymbidiums* are easily grown in pots in the medium as described for tropical American orchids or in the soil recommended for outdoor culture.

By all means send 25c for our booklet, *How To Grow Orchids*, for a much more



complete discussion of their culture than is possible in this catalog. In the following list the prices unless otherwise stipulated are for one full sized psuedo bulb with foliage.

**Butterfly.** Yellow to buff with red lip. \$10.00.

**Doreen.** Orange, tinted green. Purple spotted, yellow lip. \$10.00.

**Giganteum.** Large vigorous plant. Vivid red-brown flowers. Early. \$8.50.

**Insigne.** Small plants, nice size for pots. White, flushed pink to deep rose. \$12.50.

**Moir.** Shades of cream to yellow. Crimson markings on lip. \$10.00.

**Veichi.** Good grower and multiplier. Flowers large and pretty but only 8 or 9 on a stem. The stems are so freely produced that plants yield a good average number of flowers. \$9.00. Smaller size, \$7.50.

**Winter Cheer.** Cream with pink dots. Red dot on lip. \$9.50. Small, \$7.50.

**Assorted.** These are all good varieties but labels were lost. A few are even more rare than our labelled varieties but I am unable to identify them. \$8.00 ea. Smaller plants, \$5.00 and \$6.00 ea.

**Cypripediums or Lady Slippers.** These are not the hardy Lady Slippers of the temperate zone but their tropical representatives from India. More properly they are Paphiopedilums. In horticulture they are known as Cypripediums. They have the typical slipper shape, one flower on a stem but a large plant may produce several stems. The flowers are 4" to 5" wide or more. **Culture.** They may be grown in the ground in So. Calif. in the same lath house and soil as for Cymbidiums. They will not survive quite as much cold but are safe at 30° and possibly lower. They may be grown in pots and in a soil medium of peat and chopped sphagnum, equal portions, but are usually grown by commercial growers in osmundine. The plants we sell are established in one of these mediums and are shipped in paper pots. Shift into a 5" or 6" clay pot.

**Cypripedium insigne.** 4" to 5" flowers in winter. The dorsal sepal is glossy greenish yellow, spotted purple and orange and tipped white. Petals, pale yellow green, veined brown-purple. Lip, yellow green, shaded brown. Very variable, with many named varieties. Price, \$7.50 each.

## Tropical American Orchids

The following are imported plants established in pots. They include only those that are easy to grow in the hands of amateurs, and many of them are useful corsage varieties. We import most of our own stock and have them shipped here by air express so that they reach us in a better condition than those brought in in cars or trucks. As soon as received they are potted. These are shipped, established in the proper potting medium, in paper pots. You need only to be prepared with a 5" or 6" pot to shift them into.

Most people compare prices. Remember that established plants cannot be sold at the price of loose, recently imported plants. Most of these have been drying out for many weeks and frequently for several months. It usually takes a long time to get them started and some customers have reported no success. But our plants are collected and shipped at once by air express instead of the slower transportation of a truck. Usually this method of handling does not interfere with blooming at their normal season. But we have priced the following orchids very conservatively and as near the prices of unestablished plants as possible. They are long lasting flowers, useful for cutting and as corsage flowers.

**Culture.** All of the following Orchids will be shipped in paper pots. The plant with adhering potting medium will be placed low in the pot with dry material around them. Unpack carefully and use all the material as your potting soil. If the material is entirely broken away from the plant, little harm will result but be careful not to break or bruise the living roots. Use 5" or 6" clay pots which are 1/3 full of good drainage material.

Set the pots in a cool, shaded place, as under trees. They should be on tables and off the ground as snails and slugs enter the pots and devour the roots or tender growth especially of Laelias and Odontoglossums.

They should be sprinkled every evening especially after a hot day. These are all "cool house" orchids. They must be kept cool in summer and Odontoglossums in particular. Sprinkle the ground round about and see that the space is an open one that



will admit a free flow of the cooling air. In the winter, these orchids should have the protection of a lath house in So. Calif. or of a greenhouse in colder climates. They will do well in living rooms.

One of the most ideal ways to grow many orchids is in wire baskets. Established in baskets, the plants cannot be overwatered and the conditions of growth are more natural than in pots. We will establish any of the following in a wire basket and ship it prepaid for \$1.00 more than the price of the plant. A few below are quoted as already established in baskets and the price given is the total price.

Every amateur orchid grower should have our booklet "How To Grow Orchids" for the more complete culture information contained. If you are interested in acquiring other orchids than those listed here, request that we place your name on our special orchid mailing list. We receive new imports at intervals and send quotations to those on this list.

If there is a certain orchid that you want, please ask us to quote it providing, of course, that you have definitely decided to buy one.

We have a very few of the better hybrid Cattleyas. If you are confident of your ability to grow them, request a quotation.

We also have a collector in Colombia, S. A., who will send us some of the better species Cattleyas. We will quote these to bonafide buyers.

When requesting quotations please enclose a self-addressed postcard.

**Cattleya aurantiaca.** Small orange red flowers in April, May. Easy to grow. \$6.00.

**C. Skinneri.** 5" rose purple flowers, Jan. to May. Easy. \$7.50.

**Epidendrum alatum.** This and the following Epidendrums have pseudo bulbs which terminate in leaves. Alatum has 2" flowers, green shaded brown with yellowish lip marked rose purple in a many flowered erect panicle, in summer. Fragrant. \$7.00.

**E. cochleatum.** The first epiphytic orchid to be flowered in England, in 1791. The 4" flowers are greenish white, with purple and olive green lip. Up to 7 flowers in a raceme. Blooms all year. \$7.50.

**E. fragrans.** Flowers 2", very fragrant, pale greenish to whitish with crimson streaked lip. \$7.50.

**E. Mariae Ames.** Many white flowers in spring. \$7.50.

**E. nemorale.** 5 to 8 fragrant, light purple flowers on a stem in April, May and June. \$7.50.

**E. obrienianum.** This species belongs to the Euepidendrum group, explained in our booklet, "How To Grow Orchids" (25c). The leafy stems grow to 3 ft. or more and there is no pseudobulb. The large brilliant cluster of 1" red flowers are well known in California gardens. Propagated by cuttings having aerial roots. Easy in pots. Price 75c and \$1.00 ea.

**Laelia anceps.** 2 to 6 violet rose flowers, up to 4" diam. in the winter. \$3.00 and \$5.50. We have some large clumps, from 13 to over 25 pseudobulbs in a clump, established in wire baskets. This is the most ideal method of growing Laelias. Many of these already have from one to several flower scapes several inches in length. These develop very slowly just as they last a long time in bloom. Prices, with at least one flower scape, \$12.50. With several, \$14.50. These will be shipped by express prepaid as far east as the Mississippi river. East of that, add \$1.00 for transportation.

Other large plants, 15 pseudobulbs, established in wire baskets, not yet showing blooming scapes, \$7.50 and \$10.00. Since it is very early, I am confident that every one of these will flower. Please order L. anceps as early as possible, since the flower stems are growing longer, thus making them more difficult to pack and ship safely.

Smaller plants established in 4" to 5" pots. We ship these in paper pots the same as all those that are not in wire baskets. This is the second season for them in Calif. Two sizes, \$3.00 and \$5.50 ea.

**L. autumnalis.** 3 to 9 flowers on a stem, 3" diam. Rose purple sepals and petals with white lip marked yellow and purple. Blooms late fall. \$5.50.

**L. grandiflora.** Largest flowered Laelia, up to 9". Rose lilac flowers from April thru June. \$3.50 and \$5.50.



Note. Epidendrums, Cattleyas, Laelias and Schomburgkias are closely related and will cross. Exceptionally fine hybrids have resulted from the crosses. The flowers are all very long lasting.

**Lycaste aromatica.** 2½" yellow flowers, 1 on a stem but many stems to a bulb. Very fragrant. May thru July. \$6.50.

**L. Deppi.** 1 or 2 flowers on a scape. 4" diam. Sepals, dingy green, spotted chocolate-purple; petals, white; labellum, bright yellow. Vigorous and free flowering, Aug. to June. \$7.50.

**L. Skinneri.** Single, waxy flowers up to 6" diam. Sepals, white, tinged rose; petals tinged dark rose; labellum crimson-purple. The best Lycaste. \$8.50.

**Odontoglossum grande.** Flowers yellow, banded chestnut brown, Aug. to Nov. Three or more on a stem and 5" to 7" diam. Long lasting. Will stand temperatures as low as 26°. \$5.50.

**O. Rossii.** Flowers 3" diam. on a 2 to 5 flowered raceme. Sepals, cream to greenish yellow, barred dark brown. Petals, white with a few brown spots at base. Labellum pure white except yellow claw. Very attractive. Feb. to Aug. \$5.50.

**Oncidium ornithorhynchum.** Soft rose colored flowers on a many flowered panicle, Aug. to Dec. The fragrant flowers are the most delicately beautiful of the genus. The plant is dwarf and compact, easily grown and free flowering. \$7.50.

**Schomburgkia tibicinus.** Numerous 3½" flowers on a 4 ft. raceme. Deep pink, speckled white on outside and rich chocolate red on inside. Labellum white, deep rose and chocolate red. Pseudobulbs are about 1 ft. long, topped by shorter leaves making a medium large plant. A very showy, easily grown orchid, resembling Laelias. \$8.00.

**Trichopilia tortilis.** In this genus the labellum is large and the most conspicuous part of flower. This species has a solitary flower, 4" across with large labellum, white with crimson spots, and becomes entirely crimson within. Flowers profusely in summer and sometimes again in winter. \$8.00.

**Please Order Orchids** before cold weather arrives. We cannot accept responsibility for freezing in transit. The only safe way in the winter is to ask that we ship by express at your expense. One should buy the fall and winter blooming sorts as early as possible anyway.

## Orchid Supplies

**Culture medium** for growing orchid seed. This consists of powdered Agar and all the nutrients required by the Knudson formula. Enough to make 1000 cc. or slightly more than 1 qt. with directions. Price \$2.50.

**English Type Prefabricated Greenhouse.** A precision built, all wood, tight fitting greenhouse using tough flexible glass. This greenhouse is made in sections that are assembled with screws and bolts by any handy man. Skilled mechanics not needed. The lumber is clear, straight grained and kiln dried. Price, 10' x 6', \$245.00. 10' x 9', \$305.00. 10' x 12', \$365.00. Three foot sections may be added at any time. Shipped from Oregon, f. o. b. The smaller house weighs only 700 lbs. Literature will be sent to those interested.

**Osmundine.** Excellent grade for Orchids. 2 lbs., gross weight, \$1.25 postpaid. 5 lbs., net weight, \$2.25 f. o. b.

**Sphagnum Moss.** Top quality bales, about 14 lbs., \$3.50, f. o. b. La Verne. For the east we can ship f. o. b. Wisconsin if requested.

**Canadian Peat.** The best we can get. Buy locally if able and save express. Approx. weight, 100 lbs. Per bale, \$5.00, f. o. b. Screened peat, 10 lbs. for \$1.00, f. o. b.

**Books.** **White's American Orchid Culture.** 276 pp., 15 beautiful colored plates. \$6.00. **Bailey's Cyclopedia of Horticulture.** 3 vol., over 3,600 pp. Contains more information about Orchids and their culture than any book I know of, in addition to all the wealth of information about all cultivated plants. This work has been out of print for about one year. Due to the short supply of paper, some of our customers have been back ordered nearly this entire time, others not so long.

The publishers have recently informed me that the new edition will be distributed in a few weeks. The price of this set will be \$30.00, postpaid. Therefore those who have



ordered the set and have remitted \$25.00 must now send \$5.00 additional. I have tried to convince the publishers that our customers bought the set at their published price and are entitled to delivery at this price. But they refer me to the fact that all books are published, subject to price change without notice. Hence you must send an additional \$5.00 or cancellation of order. I hope you will not cancel as this is, I believe, the finest horticultural work extant.

**How To Grow Orchids**, by Cecil Houdyshel. This is a 12-page booklet, including covers, the size of these catalog pages and is the same type and from the same printer. No illustrations. Hence it is equal to 25 or more pages of an average book. It is boiled down, easily understood information with which any one should be able to grow orchids. Price 25c.

## RANUNCULUS AND ANEMONES—Ranunculaceae

**Ranunculus** range in color from red, pink, yellow to white. This strain if well grown produces giant double flowers on tall stems.

**Anemones** are red, pink, white and blue but blue predominate. The flowers of this strain are mostly single which we prefer in Anemones.

**Culture.** Best planting time is Sept. to Feb. Bulbs start better in a medium temperature. In hot weather, start them in a flat in the cool shade of a tree. In cold weather start them in a moderately warm room. When not over 1" high transfer to garden. For pots, place pots when starting the bulbs as directed for the flats. The best soil is rich sandy loam. To heavier soils add much leaf mould. Do not water much when sprouting as the best bulbs will rot if too wet.

We offer only the largest size. They cost much more per bulb but each bulb gives so many flowers that your flowers cost no more and are earlier, larger, better and more sure.

**Giant Double Ranunculus.** Jumbo size bulbs,—about 1" diam. 20c ea. \$1.75 per doz. \$6.50 per 50 bulbs. \$12.00 per 100.

**Anemones.** Largest size bulbs, same price as Ranunculus.

## BILLBERGIAS—Bromeliaceae

**Billbergias** have a rich, tropical appearance with the showiest inflorescence. In both foliage and flowers they are most unusual and most lovely. The numerous vividly colored bracts on drooping racemes topped by flowers that are usually a shade of blue comprise the floral display. The stiff erect foliage forms a cup and is ornamental and often colorful.

**Culture.** They are tender tropicals but do well in mild climates like that of So. Calif. in the garden. They are easy in pots. They need half shade. Too much shade prevents the coloring of those varieties that have variegated foliage. The cups should hold a drink while growing,—in the summer. Do not overwater when starting them or in the winter as Billbergias make rapid growth only in hot weather. Being Epiphytes, their natural soil is pure leaf mould or rotted wood mould. Peat and sphagnum are good substitutes. Add a little sand for greater substance. They do well in half sand and half leaf mould or peat. Neither overwater or let them become dry.

**Billbergia distachia hybrid.** Foliage reddish green with cream spots. Long spikes with rose pink bracts and blue margined green flowers. Blooms in early spring and a few in late summer. 75c.

**B. nutans.** The earliest to flower, often late Dec., usually in Jan. - Feb. The inflorescence is most beautiful. Price 50c ea. 3 for \$1.00.

**B. rubro-cyanea.** The foliage has very rich variable markings of green, red and white. Flowers green, edged dark blue with crimson bracts. To bring out the rich colors of the foliage give some sun exposure. The more sun received, the finer will the colors be. But guard against too much sun which would burn and injure foliage and stop growth. \$1.25 ea.

**B. thyrsiflora.** Gracefully recurved bright green leaves. Startling inflorescence of scarlet bracts and purplish flowers. \$2.00 ea.